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2020 Discard Estimation, Precision, and Sample Size Analyses for 14 Federally Managed Species Groups in the Waters off the Northeastern United States

by SE Wigley and C Tholke

US DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
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by SE Wigley[1] and C Tholke[2]

[1] National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Northeast Fisheries Science Center, 166 Water Street, Woods Hole, MA 02543

[2] Integrated Statistics, 16 Sumner Street, Woods Hole, MA 02543
Under contract to
National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Northeast Fisheries Science Center, 166 Water Street, Woods Hole, MA 02543

US DEPARTMENT OF COMMERCE
Wilbur L Ross, Secretary
National Oceanic and Atmospheric Administration
Neil Jacobs, Under Secretary
National Marine Fisheries Service
Chris Oliver, Assistant Administrator for Fisheries
Northeast Fisheries Science Center
Woods Hole, Massachusetts
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LIST OF ACRONYMS AND ABBREVIATIONS

AA = access area
AMS = Allocation Management System
ASM = At-Sea Monitoring Program
CFDBS = Commercial Fisheries Database System
CV = coefficient of variation
d/k = discard/kept
EM = electronic monitoring
FED = finfish excluder device
FMP = fishery management plan
GEN = general category
IFM = industry funded monitoring
IFS = Industry Funded Scallop Program
lg = large mesh
LIM = limited access category
MA = Mid-Atlantic
MAFMC = Mid-Atlantic Fishery Management Council
MPC = minimum pilot coverage
MRIP = Marine Recreational Information Program
NE = New England
NEFMC = New England Fishery Management Council
NEFOP = Northeast Fisheries Observer Program
NEFSC = Northeast Fisheries Science Center
NOAA = National Oceanic and Atmospheric Administration
NMFS = National Marine Fisheries Service
OB = observed or observer
OBDBS = Observer Database System
OPEN = nonaccess area
SBRM = Standardized Bycatch Reporting Methodology
SE = standard error of the estimate
sm = small mesh
US = United States
VTR = Vessel Trip Report
xlg = extra large mesh

EXECUTIVE SUMMARY

This report describes the analyses associated with the discard estimation of 14 federally managed fish and invertebrate species groups during the July 2018 through June 2019 time period and the expected coverage needed by at-sea observers for northeastern United States fisheries for the April 2019 through March 2020 time period by using the Standardized Bycatch Reporting Methodology.

An estimated 61,880 mt (136,420,948 lb) of federally regulated species were discarded during the July 2018 through June 2019 time period. The predominant species groups discarded were skates (Rajidae) and sea scallop (*Placopecten magellanicus*). Across all species groups examined, "no market" was the reason reported for the majority of discards. Analyses also revealed that for fleets with observer coverage, the coverage within a fleet corresponded with the spatial and temporal patterns of fishing activity in terms of kept weight of all species. The discards reported in this document may not necessarily correspond directly with the discard estimates derived for individual stock assessments because of differences in stratification and data. Hence, the discard estimates are not definitive, but indicative of where discarding occurred among commercial fleets and for which species groups.

An estimated 6,404 sea days are needed to achieve a precision-based performance standard (30% coefficient of variation of the discard estimate) for the 14 fish and invertebrate species groups across 62 fleets. The sea day analyses used a standardized protocol to account for the importance of the discarded species relative to the amount of discards by each fleet and total fishing mortality.

INTRODUCTION

The Standardized Bycatch Reporting Methodology (SBRM) Omnibus Amendment was implemented in February 2008 (NEFMC 2007; NMFS 2008) to address the requirements of the Magnuson-Stevens Fishery Conservation and Management Act to include standardized bycatch reporting methodology in all of the New England Fishery Management Council (NEFMC) and Mid-Atlantic Fishery Management Council (MAFMC) federal fishery management plans (FMPs). Because of a deficiency associated with an element of the amendment (the prioritization process), the regulations implementing the SBRM were removed by the National Marine Fisheries Service (NMFS) in December 2011 (NMFS 2011). A revised SBRM Omnibus Amendment was approved in March 2015, and the final rule became effective in July 2015 (NEFMC 2015). This report provides some of the information required by the annual discard report specified in the SBRM amendment.

The SBRM discard estimation methods described in Wigley et al. 2007 are still applicable. The analyses conducted for 2020 are similar to those conducted in 2019 (Wigley and Tholke 2019) in which the sample size analyses are based on the assumption that the pattern of fishing activity observed in the prior year will be similar to that in the upcoming year.

This document presents the estimated discards and associated precision as well as the number of sea days needed to obtain a 30% coefficient of variation (CV) on the discard estimates for the 14 species groups associated with NEFMC and MAFMC federal FMPs in northeastern United States (US) fleets[1]. Additionally, discard reasons associated with the discarded species are summarized. This document differs from SBRM documents prior to 2012 in that it does not include a sea day prioritization[2] and does not contain information about sea turtles.

METHODS

Data Sources

The data sets used include July 2018 through June 2019 data from the Northeast Fisheries Science Center's (NEFSC) Observer Database System (OBDBS), the Vessel Trip Report (VTR; including logbooks from the surfclam [*Spisula solidissima*] and ocean quahog [*Arctica islandica*] fishery) database, the NEFSC Commercial Fisheries Database System (CFDBS), the Greater Atlantic Regional Fisheries Office allocation management system (AMS) and the National Oceanic and Atmospheric Administration (NOAA) Marine Recreational Information Program (MRIP) database.

During the July 2018 through June 2019 time period, the NEFSC's Fisheries Sampling Branch managed 3 comprehensive observer programs (the Northeast Fisheries Observer Program [NEFOP], the Industry Funded Scallop Program [IFS], and the At-Sea Monitoring Program [ASM]) that collect a broad range of data including information on all species, by disposition (retained and discarded), that are encountered during a fishing trip as well as gear characteristics data and economic information. Biological samples are collected in the NEFOP and IFS programs

[1] "Fleet" is synonymous with "fishing mode."

[2] The observer sea day allocation documents are available online.

but not the ASM program (NEFSC 2016a, 2016b). The Fisheries Sampling Branch contracts trained sea-going observers and monitors to collect these data. Fish and invertebrate species are recorded by weight. Conversion factors were applied to convert any dressed-weight data to live[3]-weight equivalents.

For this analysis, only observed hauls from non-state funded NEFOP[4] and IFS trips with a "complete" sampling protocol were used and are referred to collectively as observed (OB) trips. A "complete" sampling protocol includes obtaining species weights for both kept and discarded portions of all species in the catch. Observer training trips have been included in the analysis. Aborted trips and "set only" trips were excluded from the analysis along with trips fishing in statistical areas associated with the Grand Banks (statistical areas < "400") and the US Southeast Region (statistical areas ≥ "700"), trips landing outside the Greater Atlantic Region (e.g., trips landing in Canada), and "carrier" trips (*fleet_type* = "050"; no fishing effort occurred on these trips). Trips using shrimp twinned trawl (negear = 450) were removed from the analyses because these trips are subject to the South Atlantic Fishery Management Council's shrimp FMP that has an SBRM provision and are therefore covered by the Southeast Fisheries Science Center's observer program (Scott-Denton et al. 2012). Hauls with no catch reported, hauls using a try net[5], hauls that contained species with discard reason "090" (discards by mistake), species weight with discard reason "039" (previously discarded), and catch of nonliving matter (such as debris, shells; these items would not be kept and sold) were also excluded for the analysis. There were 3 observed New England (NE) hagfish pot trips for which there were only 2 VTR trips for the gear type, an insufficient number of trips to form a fleet for this analysis. There were 4 observed Mid-Atlantic (MA) small mesh access area general category scallop trawl trips, 1 observed MA large mesh open area general category scallop trawl trip, 1 observed NE small mesh shrimp trawl trip, with no corresponding VTR trips for the calendar quarter. Consequently, these 9 observed trips were removed from the analysis.

The same broad stratification scheme used in previous SBRM analyses was employed in this analysis, in which trips were partitioned into nonoverlapping fleets by using 5 classification variables: geographic region, gear type, mesh, access area, and trip category. Calendar quarter was used in the analyses and was based on landed date to capture seasonal variations in fishing activity and discard rates. Two broad geographical regions were defined: New England and Mid-Atlantic based on port of departure[6]; ports in states from Maine to Rhode Island constituted the NE region,

[3] In this document, "live" is equivalent to "round" grade (i.e., includes the weight of the shell for shellfish).

[4] State-funded NEFOP trips, such as Atlantic States Marine Fisheries Commission funded trips (program code = 042) and the New York State Department of Environmental Conservation funded trips (program code = 045) are excluded from this analysis. Additionally, the ASM trips (program codes = 230-235 and 242) associated with Northeast Multispecies (groundfish) fishery management plan are also excluded. These trips may have different goals/objectives and/or difference stratification/sea day allocations than the other NEFOP trips and IFS trips. To reduce potential bias within SBRM, these observed trips have not been used in the 2018, 2019, and 2020 analyses. This exclusion differs from the previous analyses conducted from 2012 to 2017.

[5] A try net is often used concurrently with shrimp trawl and shrimp twin trawls but has not been reported in the VTR (no corresponding gear code in the VTR database); hence, a sampling frame is not available for this gear type.

[6] Wigley et al. (2007) found that the majority (over 93%) of 2004 observed trips both originated and fished in the same region and exhibited the same general pattern as in the VTR data. An updated analysis with July 2007 through June 2011 data found similar results (Wigley et al. 2012). While data from both the VTR and OB are summarized by port landed, the allocation of sea day coverage is necessarily based on port of departure since an observer must physically board the vessel. A review of the NEFOP and VTR databases revealed few instances (approximately 2%) where the change of port of landing from port of departure results in a change in region (i.e., NE to MA or vice versa).

and ports in states from Connecticut to North Carolina constituted the MA region. Gear type was based on Northeast gear codes (*negear)*. Some gear codes were combined: hand line and troll line; sink, anchored, and drift gillnets; and single and paired midwater trawls. Trips for which gear was unknown were excluded. Mesh size groups were formed for all trawl[7] and gillnet gear types. For trawls, 2 mesh groups were formed: small (sm; mesh less than 5.50 in) and large (lg; mesh 5.50 in and greater). For gillnets, 3 mesh groups were formed: small (mesh less than 5.50 in), large (mesh from 5.50 to 7.99 in), and extra large (xlg; mesh 8.00 in and greater). Three access area categories[8] were formed: access area (AA), all (access and nonaccess areas combined), and nonaccess area (OPEN). The sea scallop fishery was divided into general (GEN) and limited (LIM) access trip categories by using the AMS activity code. All other fisheries were combined into a trip category called "all."

Stratification abbreviations used are given below.

Abbreviation	Definition
NE	New England ports (RI and northward)
MA	Mid-Atlantic ports (CT and southward)
Sm	Small mesh (less than 5.50 in)
Lg	Large mesh (from 5.50 to 7.99 in for gillnet; 5.50 in and greater for trawl)
Xlg	Extra large mesh (8.00 in and greater for gillnet)
AA	Access area
OPEN	Nonaccess area
GEN	General category
LIM	Limited access category

The VTR data are used as a basis for defining the sampling frame, since all federally permitted vessels are required to file a VTR for each fishing trip except those vessels that hold only a federal commercial lobster permit[9]. (See NOAA Fisheries Greater Atlantic Regional Fisheries Office Vessel Trip Report Instructions for guidance.) These self-reported data[10] constitute the basis of commercial fishing activity. While dealer data are preferred because of more accurate weights, VTR data are used as a surrogate because dealer data do not contain mesh size and area fished information. Therefore, VTR data were used to expand the OB discard ratios to total discards. For this analysis, the commercial federal VTR trips were used. Conversion factors were applied to convert various units of measure to pounds and all weight to live weight. VTR trip

[7] In the 2018 analyses (Wigley and Tholke 2018) and onward, specific mesh size groups were applied to all trawl gear. In analyses prior to 2018, only otter trawl, Ruhle trawl, and haddock separator trawl had specific mesh size groups. The application of specific mesh size groups to all trawl gear represents a refinement and resolves the inconsistent use of mesh size among trawl gear.

[8] Trips associated with the scallop trawl and scallop dredge fleets were partitioned into "AA" or "OPEN" access categories based on AMS activity code. Trips associated with the NE small mesh midwater fleet (including exempted groundfish access area trips) were grouped into "all" access category. All other trips associated with the remaining fleets were assigned "OPEN" access category.

[9] In Fall 2017, NEFMC and MAFMC approved the SBRM Framework action to allow the inclusion of vessels with federal commercial lobster only permits into the SBRM analyses. The pending framework action may be implemented sometime in 2020; hence, the 2020 SBRM discard estimation and sample size analysis do not include fishing trips of vessels that hold only a federal commercial lobster permit.

[10] See Wigley et al. 2007 for more details on self-reported VTR data.

data were grouped into fleets as defined above. Trips participating in the US/Canada access area and other special access programs could not be identified in the VTR data. These trips were grouped by the other stratification variables and were not partitioned separately.

There are some fleets that contain few VTR trips. In the 2020 analysis[11], if a fleet has 3 or more VTR trips in any quarter, then the fleet is included in the analysis as a unique fleet. If a fleet has fewer than 3 trips per quarter for all quarters, then there were too few trips to analyze as a fleet, and these trips were aggregated into "Other minor fleets." This aggregated fleet had no discard estimation and no observer coverage estimated for the upcoming year (Appendix Table 1); however, landings from these trips were aggregated and reported to allow tracking of industry activity not included in the analysis.

Gear types that continue to be aggregated into "Other minor fleets" are: gear unknown (negear = 999), harpoon (negear = 030), longline pelagic (negear = 040), rakes (negear = 250), and diving (negear = 330).

In this analysis, and similarly in the 2019 analysis, the NE small mesh midwater trawl trips fishing in the groundfish access area (an exempted fishery for which 100% monitoring coverage was required[12]) have been grouped together with NE small mesh midwater trawl trips fishing in open areas to form the NE small mesh midwater trawl fleet (Row 45—row references in this text apply to Tables 2-7). This regrouping represents a modification from 2016 through 2018 SBRM analyses; see Discussion for further information.

The clam fishery has a logbook system separate from the VTR logbook. The clam logbook data were used to augment the VTR data for the clam dredge fishery.

The commercial[13] and recreational landings (in live weight; from the CFDBS and MRIP databases) for the federally managed species were used only in the sample size analysis and not in the discard estimation analysis.

A list of the 14 federally managed fish and invertebrate species groups that were analyzed and the individual species that compose each species groups are given in Table 1. Summaries of the data used, in terms of number of trips and number of sea days by fleet, calendar quarter, and data source (OB and VTR) are given in Tables 2 and 3.

The spatial and temporal patterns of observer coverage within a fleet were evaluated. Rather than the number of trips (a trip-based metric), the kept weight of all species reported in the VTR was used. The "kept weight with observer coverage" was derived as the kept weight of all species reported in the VTR summed by fleet, statistical area, and quarter, where at least 1 observed trip occurred in the fleet-quarter-statistical area cell and at least 3 observed trips[14] occurred in the fleet-quarter stratum. The "kept weight" was derived as the kept weight of all species reported in the VTR summed over all statistical areas and quarters within a fleet. The percentages of "kept weight with observer coverage" were calculated by dividing the "kept weight with observer coverage" by the "kept weight." These percentages were derived for the individual fleets, confidential fleets combined into "Confidential fleets," "Other minor fleets," and all fleets combined. Additionally, as a relative measure of fleet activity among all fleets, the percentage of

[11] Prior to the 2018 analysis, fleets with few trips were handled in a similar fashion qualitatively and not formally described in the documents.

[12] For further information see the Federal Register RIN 0648-AY47.

[13] Aquaculture landings (*catch_source* = "A") for Atlantic salmon (*Salmo salar)* have been excluded from the CFDBS because these landings are not removals from the wild population.

[14] The 3 trips for fleet-quarter correspond with a minimum threshold for allocating observer coverage.

"kept weight" was derived by dividing the "kept weight" by the sum of the "kept weight" across all fleets.

Discard Estimation

Total discards of each of the 14 federally managed species groups were estimated for the July 2018 through June 2019 time period by using a combined discard/kept (*d/k*) ratio estimator (Cochran 1963), where *d* = discarded pounds of a given species group and *k* = the kept pounds of all species (i.e., any species retained during the trip). Total discards (in weight) were derived by multiplying the estimated discard rate of each fleet by the corresponding fleet landings in the VTR database and then summing over fleets. In this analysis, no survival ratios were applied to discard estimates.

Simple imputation methods were used to fill quarterly cells for which there were fewer than 3 observed trips. Data from adjoining strata were pooled to impute estimates for cells with 0, 1, or 2 trips. In this imputation only the temporal stratification (calendar quarter) was relaxed to an annual aggregation even though seasonal variation can occur for some species. This simple imputation could not be applied to fleets where observer coverage was low or missing throughout the year (i.e., too few data to support the simple imputation approach). In these cases, imputed values were not used, and the fleet was designated as a fleet in need of pilot coverage[15]. If some data were available, then discard estimates were derived, but these results were not used in sample size analyses.

The variances and standard errors (SE) of the discard estimates were also derived. In this document, CV is defined as the ratio of the standard error of the total discards divided by the total discards. The appendix presents the equations used in the analysis.

For each species group and fleet, the landings from the VTR and clam logbook are presented to provide perspective for the discard estimates.

Discard Reasons

For each species group and fleet, the fish dispositions associated with discarding (as reported by the at-sea observer) have been grouped into the following 6 discard reason categories: no market, regulation (size), regulation (quota), regulation (other), poor quality, and other. The discard reason categories and the associated fish dispositions are summarized in Appendix Table 2. The discard reasons "No Market" and "Poor Quality" are considered economic discards and not regulatory discards.

The observed (nonextrapolated) discards associated with each of the 6 discard reason categories were summed for each species group for the fleets where discards could be estimated. For individual fleets, the percentage of observed discards by discard reason category was derived by dividing the sum of the observed discards for each discard reason category by the sum of the total observed discards for each species group and fleet. The discard reason category percentages were taken from the observed discard reason category percentages. For each fleet that composes the "Other fleets filtered out" (an aggregated fleet that represents fleets where the variance of the discard estimate was not used in the annual sample size analysis), the observed discard reason category percentages were then multiplied by the total estimated (extrapolated) discards for each species group to derive the estimated discards by discard reason category. The total estimated

[15] Pilot coverage is defined as a minimum level of observer coverage necessary to acquire bycatch information with which to calculate variance estimates that can then be used to further define the level of sampling needed (NMFS 2004).

discards by discard reason category were summed over the fleets that compose the fleet aggregation for each species group. The estimated discard reason category percentage was derived by dividing the estimated discards for each discard reason category by the sum of the total estimated discards for each species group and fleet. In other words, the "Other fleets filtered out" group represents the weighted percentage where the weighting factor was the fleet extrapolated discards.

Sample Size Analysis

A sample size analysis (also referred to as sea day analysis) was conducted to estimate the number of baseline trips and sea days needed to monitor the 14 federally managed species groups in each fleet. As described in Wigley et al. 2007 (and given in the Appendix), the number of trips and sea days needed to achieve a given precision level was based on the variance of the total discard estimate for a species group, with the assumption that the pattern of fishing activity observed in the prior year would be similar to that in the upcoming year. Sample sizes (trips and sea days) associated with the precision standard for discard estimates (30% CV) were derived. The sample size analysis was performed by using trips as the sampling unit and then converting the number of trips to sea days by multiplying by the weighted mean VTR trip length, where the weighting factor was the quarterly number of VTR trips that occurred during the July 2018 through June 2019 time period. The percentage of trips was derived by dividing the number of trips needed by the number of VTR trips that occurred in the fleet. When total discards could not be estimated because of little or no observer coverage (no data) or when total discards were zero (no variance), the sample size (number of trips) was determined by using a pilot coverage level set to 2% of the quarterly VTR trips that occurred in a fleet, with a minimum of 3 trips per quarter (12 trips per year) and a maximum of 100 trips per quarter (400 trips per year). The 2% pilot coverage was the same as was used in previous sea day analyses. To avoid assigning more coverage than could be attained, if fewer than 3 VTR trips occurred in a fleet and quarter, then pilot coverage was set to zero. The quarterly trips were then multiplied by the quarterly mean VTR trip length to derive quarterly sea days. The quarterly trips and quarterly sea days were then summed for the annual number of trips and sea days. It is recognized that pilot coverage may still result in too much coverage in cases where little or no observer coverage may actually be needed, when effort changes sharply between years, or when the fleet comprises a low number of trips on an annual basis.

Some fleet/species combinations contribute very little to the total fishing mortality or discard of the species but may require significant resources to characterize the precision of the estimate. For example, a high variance estimate for a rare event within a fleet would require high levels of sampling, even though the total discard in that fleet was unimportant with respect to either the total discard or total fishing mortality of the resource. To address this situation, importance filters were used to provide a standardized protocol to further refine the number of baseline sea days based on: (a) the importance of the discarded species relative to the total amount of discards by a fleet and (b) the total fishing mortality from discards.

The 2020 baseline sea days were filtered by using a 95% cut-point in the discard filter and a 98% cut-point for the total mortality filter from discards. In other words, estimates of sea day coverage for a given species or species group were retained for those fleets where discards constituted the upper cumulative 95% of the discard mortality and where discards constituted the upper cumulative 98% of the total fishing mortality.

To determine the number of sea days (referred to as the "2020 sea days needed") and trips needed to achieve a 30% CV on the estimates of discards for each of the 14 species groups within

a fleet, the maximum number of sea days for the 14 species groups (i.e., the maximum number of sea days in a row) was used. This approach ensures that all SBRM species groups retained by the filter will have a 30% CV or less. In the event that sea days for each species group within a fleet were filtered out or that the number of sea days needed was fewer than the number of minimum pilot days, the number of sea days for the fleet was based on minimum pilot days to maintain monitoring coverage for that fleet. Minimum pilot coverage (MPC) represents a minimum threshold for the allocation of sea days and is defined as 3 trips per quarter for each quarter where industry activity was 3 trips or greater. The quarterly number of trips is multiplied by the quarterly mean VTR trip length and then summed over quarters to derive the annual minimum pilot days for the fleet. If the fleet was designated as a pilot fleet, then pilot sea days were used. These fleets are indicated with a "P." The fleets with sufficient data to estimate sample size are referred to as nonpilot fleets.

RESULTS

There were 62 fleets uniquely identified in the July 2018 through June 2019 data (Tables 2 and 3; Appendix Table 1). Based upon the industry activity during this time period, the NE large mesh OPEN GEN scallop trawl fleet (Row 12) and the NE other dredge (Row 59) were added to the collection of fleets analyzed. The aforementioned fleets are indicated with a "+" in Tables 2 and 3. The NE large mesh Ruhle trawl fleet (Row 19) was added to this year's analysis; this fleet was not present in last year's analysis but had been included in one or more previous SBRM analyses.

Fleets in the 2019 analysis with either no activity or with fewer than 3 trips per quarter in all quarters were excluded from this analysis (such as: MA other pot and trap, NE hagfish pots and traps, and MA large mesh beam trawl). The other minor fleets not uniquely identified in this analysis were aggregated into a single fleet labeled "Other minor fleets." Because of confidentiality rules, the landings and discards associated with 11 unique fleets (NE large mesh OPEN GEN scallop trawl [Row 12], MA small mesh and large mesh twin otter trawl [Rows 13 and 14, respectively], NE small mesh twin otter trawl [Row15], MA small mesh and large mesh Ruhle trawl [Rows 16 and 17, respectively], MA small mesh other otter trawl [Row 23], MA Danish seine [Row 44], MA small mesh midwater trawl [Row 46], NE large mesh beam trawl [Row 57], and NE other dredge [Row 59] in Tables 2 and 3) were combined into a single aggregated fleet labeled "Confidential fleets" for reporting purposes in Tables 4 and 5. Hence, the fleet row numbers within Tables 2, 3, and 6 are sequential, while the fleet row numbers in Tables 4, 5, and 7 are ordered, but there are gaps in the row numbers.

Of the 62 fleets examined, 25 fleets had little or no observer data: 2 fleets had sparse observer data across all quarters, while 23 fleets were missing observer data in all quarterly cells. The fleets with no observer coverage include trawl, floating trap, pot and trap fleets, and beam trawl fleets, several of which have little industry activity. No discard estimation was performed for the 23 fleets with no observer coverage, and they were designated as fleets in need of pilot coverage (Tables 2 and 3; Appendix Table 1). The 2 fleets with sparse observer coverage were also designated as fleets in need of pilot coverage for the sample size analysis; however, discard estimation was performed with the sparse observer data. For the 37 remaining fleets (designated as nonpilot fleets; Rows 1-8, 13, 15, 20, 28-33, 35-43, 45, 48-55, 61, and 62), estimates of discards and their associated variance were derived and used to determine the sample sizes needed for a

30% CV. Of the 37 fleets, there were 14 fleets (Rows 13, 15, 20, 30, 31, 35-37, 45, 48-51, and 54) where the simple imputation was applied (Tables 2 and 3).

Thus, for the discard estimation and precision analysis, 23 fleets had no discard estimation, and 39 fleets had discards estimated. For the sample size analysis, 37 fleets had sample sizes derived from the discard variances, and 25 fleets had sample sizes based upon pilot coverage.

During the July 2018 through June 2019 period, 3,371 trips (8,915 sea days) were observed. When these trips were stratified, some trips were partitioned between strata, resulting in 3,555 trips (9,357 sea days; Tables 2 and 3) in the OB data set.

In terms of number of trips, the percentages of observed trips varied by fleet and calendar quarter. For the 39 fleets with some observer coverage, the annual percentage of observed trips by fleet ranged from 0.06% (NE lobster pot, Row 53; Table 2) to 40% (NE small mesh twin otter trawl, Row 15; Table 2). Over all fleets, the percentage of observed trips was 4.4% (Table 2). The percentage of observer days (Table 3) was generally similar to the percentage of observed trips.

In terms of kept weight of all species, the percentage of observer coverage over all fleets was 75.2% (Table 4). For the 35 nonconfidential, nonpilot fleets, the percentage of observer coverage ranged from 13% to 99% with an average of 73% (Table 4). Twenty-eight of the 37 fleets had a percentage greater than or equal to 52% with an average of 85%. This finding indicates that the majority of kept weight within the fleet was associated with statistical areas and quarters with observer coverage. Additionally, these 28 fleets composed 89% of the total kept weight across all fleets. The kept weight of all species was considered a surrogate for fishing effort; hence, observer coverage occurred spatially and temporally where the majority of fishing effort occurred at the statistical area and quarter year scales.

The landings associated with the combined fleet "Other minor fleets" contributed <0.1% of the total landings across all fleets (Table 4); thus, the 62 uniquely identified fleets account for almost all of the total VTR landings.

Annual VTR landings for all fleets and estimated discards (live weight, in pounds) with associated precision (CV and SE) for 51 individual fleets (Rows 1-11, 18-22, 24-43, 45, 47-56, 58, 60-62) and 2 combined fleets ("Confidential fleets" and "Other minor fleets" [with landings only]) are summarized for each of the 14 species groups, the individual species that composed those species groups, and the 14 species groups combined (Tables 5A, 5B, and 5C; Figures 1A and 1B). There were 15 nonconfidential, pilot fleets (Rows 9, 11, 18, 19, 21, 22, 24-27, 34, 47, 56, 58, and 60) as well as the "Other minor fleets" that have no discard estimation because of the lack of OB coverage. Fleets with no discard estimation have dark shading in Tables 5A and 5B. In Table 5A, the CVs associated with the cells (species group and fleet) that were not used in the sample size analysis (i.e., cells filtered out via the importance filter) are indicated in light shading. Precision of discards of individual species (Table 5B) and 14 species group combined (Table 5C) were not used in the sample size analysis.

Based upon this analysis, 61,880 mt (136,420,948 lb; live weight) of discards for the 14 species groups occurred during the July 2018 through June 2019 period (Table 5C). The majority (56%) of the discards comprises 2 species groups: skates (Rajidae; 35%) and sea scallop (*Placopecten magellanicus*; 21%); the remaining SBRM species groups each accounted for less than or equal to 12% (Table 5A).

The percentage of discards to total catch varied among the 14 species groups (Table 5A; Figure 1A) and individual species (Table 5B; Figure 1B). One species group (SAL) had zero discards (this species group is not presented in Figure 1A or Appendix Table 3A); in 2 species groups (SCOQ and HERR) discards were less than 1% of total catch; in 5 species groups (TILE,

SCAL, BLUE, SBM, and GFL) percentages of discards ranged between 1% and 10% of total catch; in 1 species group (RCRAB) discards ranged between 11% and 25% of total catch; and in 5 species groups (GFS, FSB, DOG, MONK, and SKATE) discards were greater than 26% of total catch. The species groups with the highest percentage of total discards relative to total catch were: skates (63%), monkfish (*Lophius americanus*; 45%), spiny dogfish (*Squalus acanthias;* 42%), fluke-scup-black seabass (*Paralichthys dentatus, Stenotomus chrysops, Centropristis striata,* respectively; 33%, and small mesh groundfish 31%; Figure 1A). For individual species (Table 5B; Figure 1B), most notable are the high percentages of discards to total catch for Atlantic wolffish *(Anarhichas lupus*; 100%), ocean pout (*Zoarces americanus*; 100%), and windowpane flounder (*Scophthalmus aquosus*; >99%); no possession is allowed for these 3 species. Atlantic halibut (*Hippoglossus hippoglossus*; 82%) have a 1 fish trip limit. Offshore hake (*Merluccius albidus*; 53%) and red hake (*Urophycis chuss*; 75%) had a high percentage of discards to total catch for economic reasons ("No Market"). The NE AA LIM scallop dredge fleet (Row 39; 29%) and NE large mesh otter trawl fleet (Row 8; 15%) had the highest estimated discards of SBRM species (Table 5C).

The reasons for discarding varied among the 14 species groups (Appendix Table 3A) and individual species (Appendix Table 3B). Overall, for the 14 species groups, the majority (74%) of discards were attributed to "No Market." "Regulation" (size, quota, and other), "Poor Quality," and "Other" contributed 18%, 5%, and 3%, respectively (Appendix Table 3A).

The percentages of discards to total catch by fleet were also summarized for 37 nonpilot fleets (Figure 2). Discards of 1 or more of the 14 species groups that were filtered out via the importance filter have been aggregated into a species group labeled "Other SBRM." Discards of species not federally managed have been aggregated into a species group labeled "Non-SBRM." The percentages of discards to total catch varied by fleet (Figure 2). There were 3 fleets (Rows 31,35, and 45) where discards were less than 1% of the total catch in the fleet; 10 fleets (Rows 2, 4, 28-30, 37, 38, 52, 61, and 62) where the percentages of discards ranged between 1% and 10%; 12 fleets (Rows 1, 3, 20, 32, 33, 36, 39, 41-43, 50, and 55) where the percentages of discards ranged between 11% and 25% of total catch; 8 fleets (Rows 5-8, 13, 40, 48, and 54) where the percentages of discards ranged between 26% and 50% of the total catch; and 4 fleets (Rows 15, 49, 51, and 53) where discards were greater than 50% of the total catch (Figure 2).

The number of species groups discarded within a fleet also varied among fleets. In the majority of fleets (27 of the 37 fleets), "discards" comprised 2 or 3 discarded species groups. For 13 of these fleets (Rows 1, 4, 13, 15, 20, 30, 36, 37, 45, 48, 49, 54, and 61), the "Other SBRM" species group comprised the majority of the discards. This finding indicates that the majority of discards for those 13 fleets were filtered out via the importance filter. There were 10 of these fleets (Rows 3, 28, 29, 31, 35, 41, 50, 51, 52, and 53) for which the "Non-SBRM" species group comprised the majority or the plurality of the discards. There were 4 of these fleets where 2 of the 3 discarded species groups were "Other SBRM" and "Non-SBRM," and the third represented the majority or plurality of the discards: Rows 2 (spiny dogfish; 76%), 32 (spiny dogfish; 39%), 40 (skate complex; 41%), and 55 (red deepsea crab [*Chaceon quinquedens*]; 99%), Fig 2. The remaining fleets (10 of the 37 fleets) had between 4 and 9 discarded species groups. The skate species group comprised the majority or plurality of the discards in 4 of these fleets (Rows 6, 8, 33, and 62), the "Non-SBRM" group comprised the plurality of the discards in 3 fleets (Rows 5, 7, and 42), the "Other SBRM" species group comprised the plurality of discards in 2 fleets (Rows 38 and 43), while scallops comprised the plurality of discards in 1 fleet (Row 39). As in past years, the dominant "Non-SBRM" species in the MA longline fleet (Row 1) was smooth dogfish

(*Mustelus canis*). Striped bass (*Morone saxatilis*) and northern searobins (*Prionotus carolinus*) were the dominant "Non-SBRM" species in the MA handline fleet while sea raven (*Hemitripterus americanus*) was the dominant "Non-SBRM" species in the NE handline fleet (Rows 3 and 4, respectively; Figure 2). In the MA small mesh twin otter trawl fleet (Row 13), the dominant "Non-SBRM" species was spotted hake (*Urophycis regia*). Atlantic menhaden (*Brevoortia tyrannus*) was the dominant "Non-SBRM" species in the MA small mesh gillnet (Row 28) while striped bass was the dominant "Non-SBRM" species in the MA large mesh gillnet fleet (Row 29) and NE small mesh gillnet fleet (Row 31). The dominant "Non-SBRM" species in the scallop dredge fleets (Rows 36-43; Figure 2) were sand dollar (Clypeasteroida), starfish (Asteroidea), Jonah crab (*Cancer borealis*), and sponge (Porifera). "Fish, not known" was the dominant "Non-SBRM" species in the NE small mesh otter trawl fleet, the NE purse seine fleet, and the NE small mesh midwater trawl fleets (Rows 7, 35 and 45, respectively; Figure 2). Whelks (Buccinidae) were the dominant "Non-SBRM" species in the MA and NE conch pot fleets (Rows 50 and 51, respectively; Figure 2) while American lobster (*Homarus americanus*) and Jonah crab were the dominant "Non-SBRM" species in the MA and NE lobster pot fleets (Rows 52 and 53, respectively; Figure 2).

The precision of the discard estimates varied by species group and fleet (Table 5A). Of the 14 species groups, 11 species groups (BLUE, FSB, GFL, MONK, RCRAB, SCAL, SKATE, GFS, DOG, SBM, and TILE) had an overall CV that was less than 30%, 2 species group (HERR and SCOQ) had an overall CV that was greater than 30%, and 1 species group (SAL) had zero discards and consequently no CV. The discards of 4 species groups (BLUE, HERR, SCOQ, and TILE) were filtered out in all fleets; this finding indicates that the discards of these species groups were a minor component of the total catch of these species (Table 5A; Figure 1A). The precision of the discard estimates for individual species are given in Table 5B; these precision estimates were not used in the sample size analysis.

The number of trips and sea days needed for each species group and fleet, as well as the number of pilot coverage trips and sea days, minimum pilot coverage trips and sea days, and the trips and sea days needed for the fleet (referred to as "2020 Trips Needed" and "2020 Sea Days Needed," respectively) are summarized in Tables 6A (trips) and 6B (sea days). For the 62 fleets 2,664 trips and 6,404 sea days are needed.

As mentioned, 25 fleets had insufficient observer information to estimate discards, and the sea days for these fleets were based on pilot coverage. For fleets with the pilot coverage designation, 436 sea days (7% of 6,404 sea days; Table 6B) were needed. There are 19 fleets for which the sea days for all species groups were filtered out via the importance filter, and minimum pilot coverage days were used to maintain some coverage (Rows 1, 3, 4, 13, 15, 28, 30, 31, 35-37, 41, 45, 48-52, and 54; Table 6B). For 3 fleets (Rows 20, 40, and 55) the sea days derived from the discard variance were less than the minimum pilot coverage; hence, minimum pilot coverage days were used. The 22 [19+3] fleets with minimum pilot coverage were associated with 612 sea days (10% of 6,404 sea days; Table 6B). The sea days needed for the remaining 15 fleets (5,356 sea days, representing 84% of the total sea days needed) were derived by using the variance of the discard estimate (Tables 6B). Of the 6,404 sea days, 988 sea days (15%) were associated with the NE small mesh otter trawl (Row 7) because of high variability in squid-butterfish-mackerel discards among trips within this fleet, and 840 sea days (13%) were associated with the NE large mesh otter trawl fleet (Row 8; Table 6B) because of high variability of skate discards among trips within this fleet.

The sample sizes (in terms of number of sea days, number of trips, and percentage of trips based on the July 2018 through June 2019 VTR trips) needed to achieve a 30% CV of the discard

estimate in 18 fleets are given in Table 7. The relationship between sample size and precision, over a range of sample sizes, is shown in Figure 3 for species groups and fleets. Generally, the precision of the species group discard estimate increases (the uncertainty becomes smaller) as sample size increases, with larger increases in precision occurring at small sample sizes tapering to smaller increases at larger sample sizes (Figure 3).

DISCUSSION

A broad stratification was used to support deployment of observers on commercial fishing trips among various fleets by using attributes known prior to the trip departure. As discussed in previous discard estimation analyses (Wigley et al. 2007, 2011), species-specific stock assessment discard estimation may differ from this report because of differences in stratification and data used (calendar year versus 12-month [July through June] time period; area fished versus region [port of departure]; gear groupings; discard mortality assumptions; and VTR landings versus dealer landings). Region, based on port of departure, was used for the deployment of observers. It is recognized that area fished would provide a better stratification for discard estimation. It is expected, however, that when uncertainty in the estimates is taken into account, estimates would be in the same order of magnitude. The discard estimates presented here are not definitive estimates but rather are indicative of where discarding occurred among the commercial fleets for the 14 federally managed species groups.

No survival ratios were applied to the discard estimates; we do not account for potential survival of organisms returned to the water. When comparing discard estimates from this study with those from stock assessments, it is useful to note that survival ratios are applied in stock assessments for Georges Bank and Gulf of Maine stocks of Atlantic cod (*Gadus morhua*), Atlantic sea scallop, skates, spiny dogfish, fluke, southern New England/Mid-Atlantic and Gulf of Maine stocks of winter flounder (*Pseudopleuronectes americanus*), southern New England/Mid-Atlantic yellowtail flounder (*Limanda ferruginea*), and Atlantic wolffish.

These analyses have used VTR data. Dealer (*CFDERSyyyy*) data do not contain mesh or area fished information until the trip-based allocation is performed (Wigley et al. 2008). The trip-based allocation of dealer (*CFDETT/SyyyyAA*) data is conducted annually and was not available when this analysis was initiated. Given that the VTR landings estimates are usually less (VTR reports the captain's hail weight) than the dealer records for a given fleet, the corresponding estimates of discards will also be underestimated. The magnitude of the underestimation will vary by fleet and year.

Electronic monitoring (EM) is an emerging data collection system and is planned to be operational in 2021 with database structures in place by April 2020. During the July 2018 to June 2019 time period, some commercial fishing trips had EM as a replacement for ASM via exempted fisheries permits. For these trips, the EM only collected information on Northeast Multispecies FMP species and not all 14 FMP species. In this analysis, these EM trips have had discards characterized by using NEFOP data (i.e., the EM data via the self-reported discards on the VTR were not used).

The discard estimates provided in this analysis appropriately reflect the underlying data used (e.g., the VTR data used to raise the discard ratios to total discards and the observed trips used to derive the discard ratios were from the same VTR-based sampling frame). It is inappropriate to extrapolate beyond the sampling frame used unless it can be shown that the trips

with no VTR reporting requirements have the same landings and discard characteristics as the trips with VTR reporting requirements.

These analyses used master data and are predicated upon accurately reported and audited data. After these analyses were completed, some of the VTR data used were found to be incorrect, including the data elements used for the fleet stratification. While it is possible to remove the "erroneous" fleets and the associated sea days, the misaligned trips cannot be realigned without database corrections and completely rerunning the analyses. A rerun with corrected data may result in a change in the number of fleets and the number of sea days needed, but it is not expected to create major changes in the sea days needed. Examples of such fleets include the MA small mesh scallop trawl fleet (Row 9). In this fleet, some vessels may have reported the wrong gear used (e.g., reported scallop trawl [VTR gear code "OTC"] when a scallop dredge [VTR gear code "DRS"] or a shrimp trawl [VTR gear code "OTS"] was used). Some vessels accurately reported gear and mesh size; however, the small mesh used was below the regulated mesh size for the fishery. These types of errors can be identified by using enhanced database audits (including data leveraging between data collection systems) coupled with targeted outreach and education on the importance of accurate reporting. The identification of other "erroneous" fleets in this analysis may occur. The number of fleets to be monitored and the number of sea days needed may be reduced in the sea day allocation process because of the removal of "erroneous" fleets.

In 2014, the northern shrimp fishery was closed and remained closed through 2019. In years past, the VTR trips associated with NE shrimp trawl fleet (Row 22; Tables 2 and 3) were investigated. These trips used 2 in mesh, and most trips reported catching small mesh groundfish and/or herring while a few trips reported catching squid. The northern shrimp fishery requires a finfish excluder device (FED); however, other small mesh exempted fisheries do not require a FED. Currently, there is no data element within the VTR database that indicates whether or not a FED or other bycatch reduction device was used. Based upon previous investigations, the captains of the vessels participating in the small mesh exempted fisheries indicated that a FED was not used in the shrimp trawl. An additional data element within the VTR database is needed to distinguish shrimp trawl trips using a FED from those that are not.

The analysis conducted for the spatial and temporal observer coverage used live weight. As a result, fleets using scallop dredge and clam dredge targeting species with shells have higher kept weight percentage than other fleets because of the use of "live" weight rather than "landed meat" weight. However, the use of live weight does not distort the observed percentage (spatial or temporal pattern) within a fleet. It is important to remember that percent observer coverage is an indicator of where observed kept weight (or trips) occurred relative to unobserved kept weight (or trips). The percentage observed should not be confused with the precision of the discard estimate, which is the metric used to describe discard variability and to determine the sample size needed for monitoring purposes. It is recognized that the fleets with minimum pilot coverage may lower the overall percentage of kept weight observed. Given the number of observed trips required for a fleet with minimum pilot coverage designation (3 trips per quarter), it may not be possible to cover all the statistical areas fished within a calendar quarter. In the future an evaluation of the implications of minimum pilot coverage on the overall percentage of kept weight observed would be useful. The refinement implemented in 2018 to quantitatively define unique fleets as those with at least 3 VTR trips in a fleet and calendar quarter allows the minimum number of trips in a fleet for analytical purposes to be decoupled from the minimum number of trips in a fleet for observer sea day deployment purposes. This refinement improves the transparency of the SBRM process (including the need for enhanced data auditing, consistency between data collection systems,

minimum number of trips needed for a unique fleet for discard estimation, sample size analyses, and subsequent sea day allocations) and supports future implementation of observer deployment systems (similar to Pre-Trip Notification Systems) across all fleets. However, as expected, this refinement also results in some fleets with low industry activity to enter or exit the annual SBRM analyses over time as their number of trips fluctuates around the minimum number of trips needed for a fleet. Additionally, this refinement has resulted in some fleets which have few trips and may not be detectable by the observer program at this time. The subsequent sea day allocation process allows for consideration of observer program limitations (e.g., detection, deployment, or database limitations). Hence, the number of fleets to be monitored and the number of sea days needed may be reduced in the sea day allocation process.

In the 2016 SBRM analyses (with July 2014 through June 2015 data), a decision was made to partition the NE midwater trawl fleet into 2 fleets, AA and OPEN, to guard against potential observer coverage bias between OPEN and AA areas. The concern at the time was that trips selected for NEFOP observer coverage in NE midwater trawl fleet would go exclusively to the groundfish access area that required 100% observer coverage and the OPEN areas might not have adequate observer coverage. However, regulations allow midwater trawl trips to fish in AA and OPEN areas on the same trip, and exploration of Vessel Monitoring System data subsequently revealed that some trips fish in both areas. (Note: scallop regulations do not allow fishing in AA and OPEN areas on the same trip). VTRs require subtrip reporting when gear, statistical area, or mesh size changes during a trip. The groundfish access areas do not completely coincide with statistical areas boundaries, and as such, VTR subtrip reporting does not capture spatial changes fishing between AA and OPEN areas on midwater trawl trips. The use of NEFOP program code allowed the AA trips to be identified in the 2016 – 2018 SBRM analyses. The inability to track trips in the VTR data at this spatial resolution, coupled with the inability/impracticality to deploy an observer on a partial trip (an observer is deployed on a trip, not for part of a trip), and the forthcoming herring FMP requirement for industry-funded monitoring (IFM; for which the total IFM monitoring includes some SBRM days) that requires tracking and compliance monitoring at a trip level, not at a spatial level, all led to the 2019 decision to reverse the 2016 SBRM decision and to not separate the groundfish access area exempted fishery trips from the nonexempted trips using NE small mesh midwater trawl. The 2019 and 2020 SBRM analyses group the NE small mesh midwater trawl trips, regardless of spatial area fished. This modification does not reduce the concern for potential observer coverage bias; however, it recognizes that under current regulations, observer deployment and fishery monitoring efforts at these spatial scales are not possible. While the potential for spatial bias might occur, the 2018 SBRM data revealed that AA and OPEN NE small mesh midwater trawl trips generally cooccurred within similar statistical areas. Exploration of the 2018 SBRM data by using a combined fleet (AA and OPEN) for the NE small mesh midwater trawl trips did not change the sea days that were filtered out among species groups in the analyses, revealing that the impact of the change would result in minimum pilot coverage for 1 fleet (44 sea days) rather than minimum pilot coverage in 2 fleets (43 sea days + 44 sea days in Rows 48 and 50, respectively, Wigley and Tholke 2018). This change represented roughly a 50% decrease in the required sea days for the NE small mesh midwater trawl fleet when the 2 fleets were merged. Although this change represents a large proportional change, the expected observer coverage for the NE small mesh midwater trawl trips remains low. In the 2020 SBRM analysis, the NE small mesh midwater trawl fleet (Row 45) requires 31 sea days. If industry activity in the upcoming year remains at 505 days (Table 3, Row 45), then the expected observer coverage in this

fleet would be 6.1% ([31 days / 505 days] * 100). If observer coverage doubled (for example, 62 days), the expected observer coverage would still remain relatively low at 12.3%.

Fish may be discarded for economic reasons (e.g., "No Market" or "Poor Quality") or for regulatory reasons (size, quota, or other). When considering mechanisms to reduce discards, it may be useful to know why discarding is occurring. Observers classify the discards by fish disposition based upon the NEFOP sampling protocol (NEFSC 2016a, 2016b) in which the observer asks the captain/crew why species are being discarded. Thus, these data should be considered a form of self-reported data, and as such, these data are difficult to verify and should be interpreted cautiously.

It is important to note that large discard percentages may be associated with a small quantity of discards. Additionally, it is important to note that for many species, the discards are associated with fleets that have been filtered out by the importance filter.

This analysis does not address the coverage needed for individual sectors or multiple stock components of a species. The analytical basis for the allocation of future sea day coverage in this analysis is a specified level of precision defined in the SBRM Omnibus Amendment (i.e., 30% CV) and an expectation that the pattern of fishing activity observed in the prior year will be similar to that in the upcoming year.

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Table 1. List of the 14 fish and invertebrate species groups (in bold), with species group abbreviations in parentheses and scientific names in italics, and the species that compose these groups, corresponding to the 13 federal fishery management plans implemented in the waters off the northeastern United States.

Species/Group	Scientific Name
ATLANTIC SALMON (SAL)	*Salmo salar*
BLUEFISH (BLUE)	*Pomatomus saltatrix*
FLUKE - SCUP - BLACK SEA BASS (FSB)	
Black sea bass	*Centropristis striata*
Fluke	*Paralichthys dentatus*
Scup	*Stenotomus chrysops*
HERRING, ATLANTIC (HERR)	*Clupea harengus*
LARGE MESH GROUNDFISH (GFL)	
American plaice	*Hippoglossoides platessoides*
Atlantic cod	*Gadus morhua*
Atlantic halibut	*Hippoglossus hippoglossus*
Atlantic wolffish	*Anarhichas lupus*
Haddock	*Melanogrammus aeglefinus*
Ocean pout	*Zoarces americanus*
Pollock	*Pollachius virens*
Redfish	*Sebastes fasciatus*
White hake	*Urophycis tenuis*
Windowpane flounder	*Scophthalmus aquosus*
Winter flounder	*Pseudopleuronectes americanus*
Witch flounder	*Glyptocephalus cynoglossus*
Yellowtail flounder	*Limanda ferruginea*
MONKFISH (MONK)	*Lophius americanus*
RED DEEPSEA CRAB (RCRAB)	*Chaceon quinquedens*
SEA SCALLOP (SCAL)	*Placopecten magellanicus*
SKATE COMPLEX[16] (SKATE)	Rajidae
Barndoor skate	*Dipturus laevis*
Clearnose skate	*Raja eglanteria*
Little skate	*Leucoraja erinacea*
Rosette skate	*Leucoraja garmani*
Smooth skate	*Malacoraja senta*
Thorny skate	*Amblyraja radiata*
Winter skate	*Leucoraja ocellata*
SMALL MESH GROUNDFISH (GFS)	
Offshore hake	*Merluccius albidus*
Red hake	*Urophycis chuss*
Silver hake	*Merluccius bilinearis*
SPINY DOGFISH (DOG)	*Squalus acanthias*
SQUID[17] - BUTTERFISH - MACKEREL (SBM)	
Atlantic mackerel	*Scomber scombrus*
Butterfish	*Peprilus triacanthus*
Longfin inshore squid	*Doryteuthis (Amerigo) pealeii*
Northern shortfin squid	*Illex illecebrosus*
SURFCLAM - OCEAN QUAHOG (SCOQ)[18]	
Surfclam	*Spisula solidissima*
Ocean quahog	*Arctica islandica*
TILEFISH[19] (TILE)	
Blueline tilefish	*Caulolatilus microps*
Golden tilefish	*Lopholatilus chamaeleonticeps*

[16] Skate complex is composed of 7 species as well as skate, unknown, and little/winter mixed skate. Individual species are not summarized separately.
[17] Squid, unclassified is included in this species group. Longfin inshore squid and northern shortfin squid are also known as Loligo squid and Illex squid, respectively.
[18] In this analysis, surfclams and ocean quahogs compose the species group and are not reported separately.
[19] Tilefish, unclassified is included in this species group.

Table 2. Number of observed (OB) and Vessel Trip Report (VTR) trips, by fleet and calendar quarter (Q) based on July 2018 through June 2019 data. "P" indicates fleets with "pilot" designation.

FLEET						OB					VTR					
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Q3	Q4	Q1	Q2	TOTAL	Q3	Q4	Q1	Q2	TOTAL	Pilot
1	Longline, Bottom	OPEN	all	MA	all	4	3	3	3	**13**	60	24	19	37	**140**	
2	Longline, Bottom	OPEN	all	NE	all	35	10	5	3	**53**	580	154	32	123	**889**	
3	Hand Line	OPEN	all	MA	all	19	14	3	3	**39**	1,365	795	54	846	**3,060**	
4	Hand Line	OPEN	all	NE	all	31	9	9	4	**53**	1,350	451	25	349	**2,175**	
5	Otter Trawl	OPEN	all	MA	sm	169	164	45	253	**631**	1,306	957	557	1,013	**3,833**	
6	Otter Trawl	OPEN	all	MA	lg	64	52	23	71	**210**	823	617	601	722	**2,763**	
7	Otter Trawl	OPEN	all	NE	sm	214	84	28	66	**392**	1,512	906	425	1,100	**3,943**	
8	Otter Trawl	OPEN	all	NE	lg	119	56	110	155	**440**	1,522	1,169	914	1,261	**4,866**	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	.	.	.	.	.	9	.	.	.	**9**	P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	.	.	.	1	**1**	12	.	.	88	**100**	P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	.	.	.	.	.	16	1	.	.	**17**	P
12+	Otter Trawl, Scallop	OPEN	GEN	NE	lg	.	.	.	.	.	4	1	.	.	**5**	P
13	Otter Trawl, Twin	OPEN	all	MA	sm	.	3	3	2	**8**	6	8	19	17	**50**	
14	Otter Trawl, Twin	OPEN	all	MA	lg	.	2	.	.	**2**	22	21	1	1	**45**	P
15	Otter Trawl, Twin	OPEN	all	NE	sm	.	4	.	.	**4**	.	8	2	.	**10**	
16	Otter Trawl, Ruhle	OPEN	all	MA	sm	.	.	.	.	.	.	2	3	.	**5**	P
17	Otter Trawl, Ruhle	OPEN	all	MA	lg	.	.	.	.	.	2	3	.	1	**6**	P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	.	.	.	.	.	.	2	.	10	**12**	P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	.	.	.	.	.	1	5	.	1	**7**	P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	.	1	4	1	**6**	16	12	11	18	**57**	
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	.	.	.	.	.	250	174	20	2	**446**	P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	.	.	.	.	.	.	4	1	21	**26**	P
23	Otter Trawl, Other	OPEN	all	MA	sm	.	.	.	.	.	3	.	1	3	**7**	P
24	Otter Trawl, Other	OPEN	all	NE	sm	.	.	.	.	.	14	13	14	40	**81**	P
25	Otter Trawl, Other	OPEN	all	NE	lg	.	.	.	.	.	1	4	6	9	**20**	P
26	Floating Trap	OPEN	all	MA	all	.	.	.	.	.	10	.	.	4	**14**	P
27	Floating Trap	OPEN	all	NE	all	.	.	.	.	.	33	35	5	7	**80**	P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	58	89	154	60	**361**	378	493	739	308	**1,918**	
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	16	78	50	61	**205**	203	658	362	411	**1,634**	
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	2	41	17	116	**176**	39	352	228	632	**1,251**	
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	4	.	.	.	**4**	30	.	.	1	**31**	
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	71	25	11	29	**136**	1,186	293	71	430	**1,980**	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	43	23	21	28	**115**	1,434	661	250	858	**3,203**	

See text for fleet abbreviations; "+" indicates new fleets in 2020.

Table 2, continued. Number of observed (OB) and Vessel Trip Report (VTR) trips, by fleet and calendar quarter (Q) based on July 2018 through June 2019 data. "P" indicates fleets with "pilot" designation.

FLEET						OB					VTR					
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Q3	Q4	Q1	Q2	TOTAL	Q3	Q4	Q1	Q2	TOTAL	Pilot
34	Purse Seine	OPEN	all	MA	all	.	.	.	.	.	152	.	.	153	**305**	P
35	Purse Seine	OPEN	all	NE	all	3	2	.	.	**5**	392	61	.	34	**487**	
36	Dredge, Scallop	AA	GEN	MA	all	10	10	.	25	**45**	316	255	2	747	**1,320**	
37	Dredge, Scallop	AA	GEN	NE	all	32	9	.	35	**76**	622	118	3	538	**1,281**	
38	Dredge, Scallop	AA	LIM	MA	all	16	11	4	15	**46**	185	150	66	293	**694**	
39	Dredge, Scallop	AA	LIM	NE	all	58	55	28	76	**217**	584	463	239	926	**2,212**	
40	Dredge, Scallop	OPEN	GEN	MA	all	17	7	15	8	**47**	455	168	362	167	**1,152**	
41	Dredge, Scallop	OPEN	GEN	NE	all	9	7	12	12	**40**	143	574	1,272	1,112	**3,101**	
42	Dredge, Scallop	OPEN	LIM	MA	all	4	7	6	3	**20**	72	101	50	49	**272**	
43	Dredge, Scallop	OPEN	LIM	NE	all	21	8	29	10	**68**	232	65	235	132	**664**	
44	Danish Seine	OPEN	all	MA	all	.	.	.	.	.	25	.	1	.	**26**	P
45	Trawl, Midwater Paired&Single	all	all	NE	sm	3	2	2	.	**7**	37	77	39	.	**153**	
46	Trawl, Midwater Paired&Single	OPEN	all	MA	sm	.	.	.	.	.	.	.	16	2	**18**	P
47	Pots and Traps, Other	OPEN	all	NE	all	.	.	.	.	.	161	84	20	92	**357**	P
48	Pots and Traps, Fish	OPEN	all	MA	all	3	3	2	3	**11**	255	182	39	235	**711**	
49	Pots and Traps, Fish	OPEN	all	NE	all	4	3	.	3	**10**	690	69	5	142	**906**	
50	Pots and Traps, Conch	OPEN	all	MA	all	3	4	1	3	**11**	177	550	49	275	**1,051**	
51	Pots and Traps, Conch	OPEN	all	NE	all	3	3	.	3	**9**	373	500	11	291	**1,175**	
52	Pots and Traps, Lobster	OPEN	all	MA	all	4	3	3	3	**13**	552	239	90	197	**1,078**	
53	Pots and Traps, Lobster	OPEN	all	NE	all	4	4	5	4	**17**	12,146	8,361	2,146	3,873	**26,526**	
54	Pots and Traps, Crab	OPEN	all	MA	all	2	3	.	.	**5**	8	4	1	1	**14**	
55	Pots and Traps, Crab	OPEN	all	NE	all	3	3	3	3	**12**	17	26	25	39	**107**	
56	Beam Trawl	OPEN	all	MA	sm	.	.	.	.	.	10	4	1	1	**16**	P
57	Beam Trawl	OPEN	all	NE	lg	.	.	.	.	.	6	4	.	4	**14**	P
58	Dredge, Other	OPEN	all	MA	all	.	.	.	.	.	.	99	137	38	**274**	P
59+	Dredge, Other	OPEN	all	NE	all	.	.	.	.	.	.	1	.	6	**7**	P
60	Dredge, Urchin	OPEN	all	NE	all	.	.	.	.	.	.	2	8	.	**10**	P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	3	3	3	3	**12**	606	437	411	494	**1,948**	
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	10	10	12	3	**35**	579	368	396	417	**1,760**	
					Total	1,061	815	611	1,068	**3,555**	30,982	20,785	9,984	18,571	**80,322**	

See text for fleet abbreviations; "+" indicates new fleets in 2020.

Table 3. Number of observed (OB) and Vessel Trip Report (VTR) sea days, by fleet and calendar quarter (Q) based on July 2018 through June 2019 data. "P" indicates fleets with "pilot" designation.

FLEET						OB					VTR					
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Q3	Q4	Q1	Q2	TOTAL	Q3	Q4	Q1	Q2	TOTAL	Pilot
1	Longline, Bottom	OPEN	all	MA	all	23	34	33	24	**114**	280	172	171	266	**889**	
2	Longline, Bottom	OPEN	all	NE	all	35	10	8	3	**56**	580	157	50	155	**942**	
3	Hand Line	OPEN	all	MA	all	19	14	3	3	**39**	1,476	808	76	871	**3,231**	
4	Hand Line	OPEN	all	NE	all	38	9	12	7	**66**	1,481	470	25	375	**2,351**	
5	Otter Trawl	OPEN	all	MA	sm	290	409	244	432	**1,375**	2,258	2,014	2,412	1,651	**8,335**	
6	Otter Trawl	OPEN	all	MA	lg	93	193	138	202	**626**	1,302	1,611	2,393	1,471	**6,777**	
7	Otter Trawl	OPEN	all	NE	sm	473	261	112	237	**1,083**	3,164	2,177	2,021	2,646	**10,008**	
8	Otter Trawl	OPEN	all	NE	lg	187	130	384	424	**1,125**	3,279	3,015	3,441	3,310	**13,045**	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	.	.	.	.	.	18	.	.	.	**18**	P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	.	.	.	2	**2**	26	.	.	183	**209**	P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	.	.	.	.	.	25	3	.	.	**28**	P
12+	Otter Trawl, Scallop	OPEN	GEN	NE	lg	.	.	.	.	.	11	1	.	.	**12**	P
13	Otter Trawl, Twin	OPEN	all	MA	sm	.	24	18	2	**44**	6	62	130	25	**223**	
14	Otter Trawl, Twin	OPEN	all	MA	lg	.	2	.	.	**2**	23	22	3	1	**49**	P
15	Otter Trawl, Twin	OPEN	all	NE	sm	.	30	.	.	**30**	.	58	17	.	**75**	
16	Otter Trawl, Ruhle	OPEN	all	MA	sm	.	.	.	.	.	.	13	23	.	**36**	P
17	Otter Trawl, Ruhle	OPEN	all	MA	lg	.	.	.	.	.	14	13	.	14	**41**	P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	.	.	.	.	.	.	2	.	40	**42**	P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	.	.	.	.	.	8	15	.	7	**30**	P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	.	8	37	8	**53**	128	109	106	130	**473**	
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	.	.	.	.	.	1,204	983	132	9	**2,328**	P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	.	.	.	.	.	.	4	9	31	**44**	P
23	Otter Trawl, Other	OPEN	all	MA	sm	.	.	.	.	.	15	.	9	14	**38**	P
24	Otter Trawl, Other	OPEN	all	NE	sm	.	.	.	.	.	72	68	116	104	**360**	P
25	Otter Trawl, Other	OPEN	all	NE	lg	.	.	.	.	.	4	32	51	36	**123**	P
26	Floating Trap	OPEN	all	MA	all	.	.	.	.	.	10	.	.	4	**14**	P
27	Floating Trap	OPEN	all	NE	all	.	.	.	.	.	42	48	16	7	**113**	P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	68	92	160	67	**387**	402	498	748	354	**2,002**	
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	19	80	50	65	**214**	248	678	366	439	**1,731**	
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	2	43	21	125	**191**	47	401	298	693	**1,439**	
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	4	.	.	.	**4**	30	.	.	1	**31**	
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	77	40	26	40	**183**	1,403	439	181	535	**2,558**	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	50	28	52	59	**189**	1,633	852	613	1,431	**4,529**	

See text for fleet abbreviations; "+" indicates new fleets in 2020.

Table 3, continued. Number of observed (OB) and Vessel Trip Report (VTR) sea days, by fleet and calendar quarter (Q) based on July 2018 through June 2019 data. "P" indicates fleets with "pilot" designation.

FLEET						OB					VTR					
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Q3	Q4	Q1	Q2	TOTAL	Q3	Q4	Q1	Q2	TOTAL	Pilot
34	Purse Seine	OPEN	all	MA	all	.	.	.	.	.	152	.	.	153	**305**	P
35	Purse Seine	OPEN	all	NE	all	6	5	.	.	**11**	651	125	.	37	**813**	
36	Dredge, Scallop	AA	GEN	MA	all	18	19	.	41	**78**	537	455	2	1,188	**2,182**	
37	Dredge, Scallop	AA	GEN	NE	all	65	21	.	67	**153**	1,261	277	7	992	**2,537**	
38	Dredge, Scallop	AA	LIM	MA	all	112	78	23	108	**321**	1,279	895	353	2,119	**4,646**	
39	Dredge, Scallop	AA	LIM	NE	all	452	454	195	586	**1,687**	4,234	3,526	1,581	6,809	**16,150**	
40	Dredge, Scallop	OPEN	GEN	MA	all	26	13	29	10	**78**	703	302	676	227	**1,908**	
41	Dredge, Scallop	OPEN	GEN	NE	all	10	14	19	19	**62**	199	775	1,600	1,523	**4,097**	
42	Dredge, Scallop	OPEN	LIM	MA	all	43	55	39	35	**172**	623	693	300	469	**2,085**	
43	Dredge, Scallop	OPEN	LIM	NE	all	231	45	216	120	**612**	2,494	474	1,661	1,390	**6,019**	
44	Danish Seine	OPEN	all	MA	all	.	.	.	.	.	25	.	1	.	**26**	P
45	Trawl, Midwater Paired&Single	all	all	NE	sm	11	6	14	.	**31**	146	212	147	.	**505**	
46	Trawl, Midwater Paired&Single	OPEN	all	MA	sm	.	.	.	.	.	.	.	68	8	**76**	P
47	Pots and Traps, Other	OPEN	all	NE	all	.	.	.	.	.	161	84	20	100	**365**	P
48	Pots and Traps, Fish	OPEN	all	MA	all	3	3	2	3	**11**	260	187	49	239	**735**	
49	Pots and Traps, Fish	OPEN	all	NE	all	4	3	.	3	**10**	705	69	9	145	**928**	
50	Pots and Traps, Conch	OPEN	all	MA	all	3	4	2	3	**12**	178	551	61	279	**1,069**	
51	Pots and Traps, Conch	OPEN	all	NE	all	3	3	.	3	**9**	378	500	11	291	**1,180**	
52	Pots and Traps, Lobster	OPEN	all	MA	all	4	5	9	7	**25**	753	392	169	347	**1,661**	
53	Pots and Traps, Lobster	OPEN	all	NE	all	4	4	5	4	**17**	14,429	10,657	4,024	5,504	**34,614**	
54	Pots and Traps, Crab	OPEN	all	MA	all	8	14	.	.	**22**	34	12	2	3	**51**	
55	Pots and Traps, Crab	OPEN	all	NE	all	28	28	32	30	**118**	131	170	199	166	**666**	
56	Beam Trawl	OPEN	all	MA	sm	.	.	.	.	.	30	12	6	1	**49**	P
57	Beam Trawl	OPEN	all	NE	lg	.	.	.	.	.	17	4	.	9	**30**	P
58	Dredge, Other	OPEN	all	MA	all	.	.	.	.	.	.	99	137	74	**310**	P
59+	Dredge, Other	OPEN	all	NE	all	.	.	.	.	.	.	1	.	6	**7**	P
60	Dredge, Urchin	OPEN	all	NE	all	.	.	.	.	.	.	2	8	.	**10**	P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	9	9	9	11	**38**	1,027	859	810	973	**3,668**	
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	31	32	33	11	**107**	755	520	630	668	**2,573**	
					Total	2,449	2,222	1,925	2,761	**9,357**	50,351	36,577	25,939	38,523	**151,390**	

See text for fleet abbreviations; "+" indicates new fleets in 2020.

Table 4. Vessel Trip Report kept weight of all species (live mt), percentage of kept weight of all species across all fleets, kept weight of all species (live mt) with observer (OB) coverage from statistical areas and quarters with at least 1 observed trip and at least 3 observed trips in the fleet and quarter, and percentage of kept weight of all species with observer coverage, by fleet based on July 2018 through June 2019 data.

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Kept Weight (mt)	Percentage of Kept Weight	Kept Weight with OB coverage (mt)	Percentage of Kept Weight with OB coverage
1	Longline, Bottom	OPEN	all	MA	all	689	0.1	563	81.6
2	Longline, Bottom	OPEN	all	NE	all	1,871	0.3	1,844	98.6
3	Hand Line	OPEN	all	MA	all	199	<0.1	104	52.2
4	Hand Line	OPEN	all	NE	all	596	0.1	367	61.6
5	Otter Trawl	OPEN	all	MA	sm	20,066	3.3	19,549	97.4
6	Otter Trawl	OPEN	all	MA	lg	5,383	0.9	5,036	93.6
7	Otter Trawl	OPEN	all	NE	sm	28,227	4.6	26,221	92.9
8	Otter Trawl	OPEN	all	NE	lg	26,236	4.3	25,749	98.1
9	Otter Trawl, Scallop	AA	GEN	MA	sm	21	<0.1	0	0.0
10	Otter Trawl, Scallop	AA	GEN	MA	lg	224	<0.1	0	0.0
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	13	<0.1	0	0.0
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	315	0.1	0	0.0
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	32	<0.1	0	0.0
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	1,410	0.2	202	14.3
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	1,221	0.2	0	0.0
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	32	<0.1	0	0.0
24	Otter Trawl, Other	OPEN	all	NE	sm	736	0.1	0	0.0
25	Otter Trawl, Other	OPEN	all	NE	lg	57	<0.1	0	0.0
26	Floating Trap	OPEN	all	MA	all	28	<0.1	0	0.0
27	Floating Trap	OPEN	all	NE	all	21	<0.1	0	0.0
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	1,971	0.3	1,907	96.8
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	2,144	0.3	2,126	99.2
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	2,460	0.4	2,383	96.8
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	58	<0.1	53	92.6
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	2,618	0.4	2,490	95.1
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	9,380	1.5	9,105	97.1
34	Purse Seine	OPEN	all	MA	all	19,738	3.2	0	0.0
35	Purse Seine	OPEN	all	NE	all	19,848	3.2	12,884	64.9
36	Dredge, Scallop	AA	GEN	MA	all	3,003	0.5	2,477	82.5
37	Dredge, Scallop	AA	GEN	NE	all	2,877	0.5	2,779	96.6
38	Dredge, Scallop	AA	LIM	MA	all	33,905	5.5	31,205	92.0
39	Dredge, Scallop	AA	LIM	NE	all	119,093	19.4	115,169	96.7
40	Dredge, Scallop	OPEN	GEN	MA	all	2,665	0.4	2,493	93.5
41	Dredge, Scallop	OPEN	GEN	NE	all	3,303	0.5	2,619	79.3
42	Dredge, Scallop	OPEN	LIM	MA	all	12,581	2.1	11,194	89.0
43	Dredge, Scallop	OPEN	LIM	NE	all	46,775	7.6	42,090	90.0
45	Trawl, Midwater Paired&Single	all	all	NE	sm	18,305	3.0	2,460	13.4

See text for fleet abbreviations.

Table 4, continued. Vessel Trip Report kept weight of all species (live mt), percentage of kept weight of all species across all fleets, kept weight of all species (live mt) with observer (OB) coverage from statistical areas and quarters with at least 1 observed trip and at least 3 observed trips in the fleet and quarter, and percentage of kept weight of all species with observer coverage, by fleet based on July 2018 through June 2019 data.

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Kept Weight (mt)	Percentage of Kept Weight	Kept Weight with OB coverage (mt)	Percentage of Kept Weight with OB coverage
47	Pots and Traps, Other	OPEN	all	NE	all	69	<0.1	0	0.0
48	Pots and Traps, Fish	OPEN	all	MA	all	199	<0.1	112	56.1
49	Pots and Traps, Fish	OPEN	all	NE	all	128	<0.1	42	32.6
50	Pots and Traps, Conch	OPEN	all	MA	all	1,050	0.2	893	85.0
51	Pots and Traps, Conch	OPEN	all	NE	all	467	0.1	198	42.5
52	Pots and Traps, Lobster	OPEN	all	MA	all	980	0.2	267	27.2
53	Pots and Traps, Lobster	OPEN	all	NE	all	16,443	2.7	4,640	28.2
54	Pots and Traps, Crab	OPEN	all	MA	all	41	<0.1	9	22.6
55	Pots and Traps, Crab	OPEN	all	NE	all	1,881	0.3	1,205	64.1
56	Beam Trawl	OPEN	all	MA	sm	199	<0.1	0	0.0
58	Dredge, Other	OPEN	all	MA	all	102	<0.1	0	0.0
60	Dredge, Urchin	OPEN	all	NE	all	1	<0.1	0	0.0
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	111,837	18.2	70,451	63.0
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	85,035	13.9	59,051	69.4
	Confidential fleets					5,855	1.0	837	14.3
	Other minor fleets					466	0.1	136	29.3
					Total	**612,851**	**100.0**	**460,911**	**75.2**

See text for fleet abbreviations.

Table 5A. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equal 0. "P" indicates fleets with "pilot" designation.

Species Group: ATLANTIC SALMON (Salmo salar)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	0	0	0			
2	Longline, Bottom	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	0	0	0			
4	Hand Line	OPEN	all	NE	all	0	0	0			
5	Otter Trawl	OPEN	all	MA	sm	0	0	0			
6	Otter Trawl	OPEN	all	MA	lg	0	0	0			
7	Otter Trawl	OPEN	all	NE	sm	0	0	0			
8	Otter Trawl	OPEN	all	NE	lg	0	0	0			
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	0	0	0			
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	0	0				P
24	Otter Trawl, Other	OPEN	all	NE	sm	0	0				P
25	Otter Trawl, Other	OPEN	all	NE	lg	0	0				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	0	0	0			
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	0	0	0			
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	0	0	0			
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	0	0	0			
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	0	0	0			
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equal 0. "P" indicates fleets with "pilot" designation.
Species Group: ATLANTIC SALMON (Salmo salar)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	0	0	0			
37	Dredge, Scallop	AA	GEN	NE	all	0	0	0			
38	Dredge, Scallop	AA	LIM	MA	all	0	0	0			
39	Dredge, Scallop	AA	LIM	NE	all	0	0	0			
40	Dredge, Scallop	OPEN	GEN	MA	all	0	0	0			
41	Dredge, Scallop	OPEN	GEN	NE	all	0	0	0			
42	Dredge, Scallop	OPEN	LIM	MA	all	0	0	0			
43	Dredge, Scallop	OPEN	LIM	NE	all	0	0	0			
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0			
47	Pots and Traps, Other	OPEN	all	NE	all	0	0				P
48	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			
49	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			
53	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0			
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			
56	Beam Trawl	OPEN	all	MA	sm	0	0				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	0	0	0			
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	0	0	0			
	Confidential fleets					0	0	0			
	Other minor fleets					0	0				
					TOTAL	0	0	0			

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equal 0. "P" indicates fleets with "pilot" designation.

Species Group: BLUEFISH (Pomatomus saltatrix)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	128	0	128	0.833	106	
2	Longline, Bottom	OPEN	all	NE	all	38	7	31	1.091	34	
3	Hand Line	OPEN	all	MA	all	75,994	75,865	129	1.987	256	
4	Hand Line	OPEN	all	NE	all	13,514	13,514	0			
5	Otter Trawl	OPEN	all	MA	sm	176,852	168,639	8,213	0.425	3,488	
6	Otter Trawl	OPEN	all	MA	lg	19,707	18,889	818	0.381	311	
7	Otter Trawl	OPEN	all	NE	sm	53,516	43,443	10,073	0.273	2,745	
8	Otter Trawl	OPEN	all	NE	lg	19,696	16,071	3,625	0.576	2,088	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	0	0	0			
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	303	303				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	350	350				P
24	Otter Trawl, Other	OPEN	all	NE	sm	272	272				P
25	Otter Trawl, Other	OPEN	all	NE	lg	1,200	1,200				P
26	Floating Trap	OPEN	all	MA	all	12	12				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	76,898	75,042	1,856	0.407	756	
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	160,887	150,411	10,476	0.781	8,187	
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	5,187	4,743	444	0.605	269	
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	157,339	137,789	19,550	0.456	8,909	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	6,038	2,778	3,260	1.148	3,742	
34	Purse Seine	OPEN	all	MA	all	10	10				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equal 0. "P" indicates fleets with "pilot" designation.

Species Group: BLUEFISH (Pomatomus saltatrix)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	0	0	0			
37	Dredge, Scallop	AA	GEN	NE	all	0	0	0			
38	Dredge, Scallop	AA	LIM	MA	all	0	0	0			
39	Dredge, Scallop	AA	LIM	NE	all	0	0	0			
40	Dredge, Scallop	OPEN	GEN	MA	all	0	0	0			
41	Dredge, Scallop	OPEN	GEN	NE	all	0	0	0			
42	Dredge, Scallop	OPEN	LIM	MA	all	0	0	0			
43	Dredge, Scallop	OPEN	LIM	NE	all	0	0	0			
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0			
47	Pots and Traps, Other	OPEN	all	NE	all	0	0				P
48	Pots and Traps, Fish	OPEN	all	MA	all	966	966	0			
49	Pots and Traps, Fish	OPEN	all	NE	all	167	167	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	3	3	0			
53	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0			
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			
56	Beam Trawl	OPEN	all	MA	sm	3	3				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	0	0	0			
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	0	0	0			
	Confidential fleets					21,911	13,501	8,410	0.388	3,266	
	Other minor fleets					150	150				
					TOTAL	791,141	724,128	67,013	0.209	13,998	

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equal 0. "P" indicates fleets with "pilot" designation.
Species Group: FLUKE (Paralichthys dentatus) - SCUP (Stenotomus chrysops) - BLACK SEA BASS (Centropristis striata)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	111	0	111	2.128	236	
2	Longline, Bottom	OPEN	all	NE	all	279	0	279	0.487	136	
3	Hand Line	OPEN	all	MA	all	155,323	131,800	23,523	0.694	16,330	
4	Hand Line	OPEN	all	NE	all	23,893	23,893	0			
5	Otter Trawl	OPEN	all	MA	sm	8,783,998	6,346,771	2,437,227	0.153	371,924	
6	Otter Trawl	OPEN	all	MA	lg	6,715,949	6,166,317	549,632	0.164	89,945	
7	Otter Trawl	OPEN	all	NE	sm	6,836,402	3,326,497	3,509,905	0.220	773,468	
8	Otter Trawl	OPEN	all	NE	lg	3,289,626	2,038,595	1,251,031	0.185	230,905	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	457	396	61	0.000	0	P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	3,380	3,380				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	26,133	26,133				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	14,570	14,570				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	390	390	0			
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	17,372	17,372				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	2,228	2,228				P
24	Otter Trawl, Other	OPEN	all	NE	sm	4,743	4,743				P
25	Otter Trawl, Other	OPEN	all	NE	lg	79,392	79,392				P
26	Floating Trap	OPEN	all	MA	all	782	782				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	324	112	212	0.463	98	
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	5,935	4,513	1,422	0.287	409	
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	18,641	8,121	10,520	0.305	3,206	
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	116,158	73,100	43,058	0.499	21,500	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	167,533	45,790	121,743	0.264	32,080	
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equal 0. "P" indicates fleets with "pilot" designation.
Species Group: FLUKE (Paralichthys dentatus) - SCUP (Stenotomus chrysops) - BLACK SEA BASS (Centropristis striata)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	8,572	751	7,821	0.353	2,761	
37	Dredge, Scallop	AA	GEN	NE	all	4,098	0	4,098	0.360	1,475	
38	Dredge, Scallop	AA	LIM	MA	all	52,236	2,535	49,701	0.297	14,765	
39	Dredge, Scallop	AA	LIM	NE	all	322,364	150	322,214	0.154	49,556	
40	Dredge, Scallop	OPEN	GEN	MA	all	27,926	8,843	19,083	0.214	4,083	
41	Dredge, Scallop	OPEN	GEN	NE	all	10,637	0	10,637	0.472	5,021	
42	Dredge, Scallop	OPEN	LIM	MA	all	38,483	6,188	32,295	0.625	20,176	
43	Dredge, Scallop	OPEN	LIM	NE	all	66,336	10	66,326	0.399	26,493	
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0			
47	Pots and Traps, Other	OPEN	all	NE	all	9,130	9,130				P
48	Pots and Traps, Fish	OPEN	all	MA	all	525,471	332,081	193,390	0.273	52,726	
49	Pots and Traps, Fish	OPEN	all	NE	all	430,382	263,552	166,830	0.287	47,812	
50	Pots and Traps, Conch	OPEN	all	MA	all	475	315	160	0.583	93	
51	Pots and Traps, Conch	OPEN	all	NE	all	3,896	2,527	1,369	1.034	1,415	
52	Pots and Traps, Lobster	OPEN	all	MA	all	104,360	103,593	767	1.466	1,125	
53	Pots and Traps, Lobster	OPEN	all	NE	all	389,039	28,856	360,183	1.019	367,131	
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			
56	Beam Trawl	OPEN	all	MA	sm	135	135				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	13,811	0	13,811	0.568	7,850	
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	25,829	0	25,829	0.288	7,435	
	Confidential fleets					60,689	25,161	35,528	0.330	11,712	
	Other minor fleets					33,672	33,672				
					TOTAL	28,391,162	19,132,394	9,258,768	0.105	971,441	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equal 0. "P" indicates fleets with "pilot" designation.
Species Group: HERRING, ATLANTIC (Clupea harengus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	0	0	0			
2	Longline, Bottom	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	0	0	0			
4	Hand Line	OPEN	all	NE	all	4,037	4,037	0			
5	Otter Trawl	OPEN	all	MA	sm	27,277	23,551	3,726	0.458	1,705	
6	Otter Trawl	OPEN	all	MA	lg	463	463	0			
7	Otter Trawl	OPEN	all	NE	sm	1,390,615	1,201,532	189,083	0.320	60,585	
8	Otter Trawl	OPEN	all	NE	lg	11,015	2,529	8,486	0.288	2,447	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	48,000	48,000				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	181	0	181	0.724	131	
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	0	0				P
24	Otter Trawl, Other	OPEN	all	NE	sm	0	0				P
25	Otter Trawl, Other	OPEN	all	NE	lg	0	0				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	3,385	3,385				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	3,002	3,002	0			
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	145	145	0			
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	0	0	0			
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	21	0	21	0.570	12	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	0	0	0			
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	37,651,815	37,651,756	59	0.840	50	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equal 0. "P" indicates fleets with "pilot" designation.
Species Group: HERRING, ATLANTIC (Clupea harengus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	0	0	0			
37	Dredge, Scallop	AA	GEN	NE	all	0	0	0			
38	Dredge, Scallop	AA	LIM	MA	all	0	0	0			
39	Dredge, Scallop	AA	LIM	NE	all	0	0	0			
40	Dredge, Scallop	OPEN	GEN	MA	all	0	0	0			
41	Dredge, Scallop	OPEN	GEN	NE	all	0	0	0			
42	Dredge, Scallop	OPEN	LIM	MA	all	0	0	0			
43	Dredge, Scallop	OPEN	LIM	NE	all	3	0	3	0.855	3	
45	Trawl, Midwater Paired&Single	all	all	NE	sm	37,223,953	37,223,867	86	1.080	93	
47	Pots and Traps, Other	OPEN	all	NE	all	0	0				P
48	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			
49	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	460,000	460,000	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			
53	Pots and Traps, Lobster	OPEN	all	NE	all	1,268	1,268	0			
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			
56	Beam Trawl	OPEN	all	MA	sm	0	0				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	0	0	0			
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	0	0	0			
	Confidential fleets					4,098,000	4,098,000	0			
	Other minor fleets					450	450				
					TOTAL	80,923,631	80,721,985	201,646	0.301	60,658	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equal 0. "P" indicates fleets with "pilot" designation.
Species Group: LARGE MESH GROUNDFISH

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	1,089	77	1,012	0.396	401	
2	Longline, Bottom	OPEN	all	NE	all	215,107	201,200	13,907	0.715	9,948	
3	Hand Line	OPEN	all	MA	all	1,803	1,159	644	0.472	304	
4	Hand Line	OPEN	all	NE	all	223,462	156,668	66,794	0.187	12,516	
5	Otter Trawl	OPEN	all	MA	sm	276,524	3,770	272,754	0.161	43,960	
6	Otter Trawl	OPEN	all	MA	lg	270,683	172,878	97,805	0.182	17,808	
7	Otter Trawl	OPEN	all	NE	sm	699,360	7,763	691,597	0.155	107,375	
8	Otter Trawl	OPEN	all	NE	lg	38,985,764	37,142,358	1,843,406	0.102	187,463	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	55,402	55,402				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	3,402,017	3,030,366	371,651	0.144	53,576	
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	0	0				P
24	Otter Trawl, Other	OPEN	all	NE	sm	0	0				P
25	Otter Trawl, Other	OPEN	all	NE	lg	0	0				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	47	3	44	0.713	31	
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	2,934	1	2,933	0.831	2,439	
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	90	83	7	0.715	5	
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	1,440,330	1,330,746	109,584	0.240	26,270	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	234,941	79,121	155,820	0.390	60,784	
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equal 0. "P" indicates fleets with "pilot" designation.
Species Group: LARGE MESH GROUNDFISH

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	2,607	0	2,607	0.361	941	
37	Dredge, Scallop	AA	GEN	NE	all	3,734	21	3,713	0.156	581	
38	Dredge, Scallop	AA	LIM	MA	all	20,868	130	20,738	0.292	6,064	
39	Dredge, Scallop	AA	LIM	NE	all	463,204	1,254	461,950	0.142	65,662	
40	Dredge, Scallop	OPEN	GEN	MA	all	11,100	5	11,095	0.212	2,349	
41	Dredge, Scallop	OPEN	GEN	NE	all	70,618	25	70,593	0.390	27,528	
42	Dredge, Scallop	OPEN	LIM	MA	all	5,617	45	5,572	0.404	2,251	
43	Dredge, Scallop	OPEN	LIM	NE	all	271,615	900	270,715	0.190	51,383	
45	Trawl, Midwater Paired&Single	all	all	NE	sm	5,635	5,635	0			
47	Pots and Traps, Other	OPEN	all	NE	all	10	10				P
48	Pots and Traps, Fish	OPEN	all	MA	all	2,622	47	2,575	1.513	3,895	
49	Pots and Traps, Fish	OPEN	all	NE	all	193	62	131	0.885	116	
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	1,149	4	1,145	0.663	759	
53	Pots and Traps, Lobster	OPEN	all	NE	all	155,183	90	155,093	1.463	226,895	
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	61	0	61	1.302	80	
56	Beam Trawl	OPEN	all	MA	sm	0	0				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	241	0	241	0.682	164	
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	6,591	0	6,591	0.370	2,435	
	Confidential fleets					49,458	43,415	6,043	0.532	3,218	
	Other minor fleets					969	969				
					TOTAL	46,881,025	42,234,207	4,646,818	0.073	340,162	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equal 0. "P" indicates fleets with "pilot" designation.
Species Group: MONKFISH (Lophius americanus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	2,151	212	1,939	0.522	1,013	
2	Longline, Bottom	OPEN	all	NE	all	1,245	1,245	0			
3	Hand Line	OPEN	all	MA	all	3,288	3,288	0			
4	Hand Line	OPEN	all	NE	all	36	36	0			
5	Otter Trawl	OPEN	all	MA	sm	426,998	108,640	318,358	0.187	59,435	
6	Otter Trawl	OPEN	all	MA	lg	671,402	231,072	440,330	0.216	94,963	
7	Otter Trawl	OPEN	all	NE	sm	383,607	144,420	239,187	0.206	49,212	
8	Otter Trawl	OPEN	all	NE	lg	10,289,535	9,274,898	1,014,637	0.105	106,158	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	4,833	1,657	3,176	0.000	0	P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	17	17				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	332	332				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	797	797				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	75,223	72,761	2,461	0.504	1,241	
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	100	100				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	0	0				P
24	Otter Trawl, Other	OPEN	all	NE	sm	13,579	13,579				P
25	Otter Trawl, Other	OPEN	all	NE	lg	1,992	1,992				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	376	318	58	0.616	36	
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	15,137	14,556	580	0.391	227	
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	3,329,985	3,249,426	80,560	0.348	28,038	
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	269,349	260,473	8,876	0.246	2,181	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	6,988,868	6,120,005	868,863	0.192	167,245	
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equal 0. "P" indicates fleets with "pilot" designation.
Species Group: MONKFISH (Lophius americanus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	54,549	5,887	48,662	0.184	8,932	
37	Dredge, Scallop	AA	GEN	NE	all	121,553	14,186	107,367	0.179	19,200	
38	Dredge, Scallop	AA	LIM	MA	all	527,945	29,805	498,140	0.159	79,171	
39	Dredge, Scallop	AA	LIM	NE	all	6,968,189	260,360	6,707,829	0.111	746,268	
40	Dredge, Scallop	OPEN	GEN	MA	all	191,293	48,768	142,525	0.148	21,150	
41	Dredge, Scallop	OPEN	GEN	NE	all	104,770	23,549	81,222	0.409	33,223	
42	Dredge, Scallop	OPEN	LIM	MA	all	646,377	64,685	581,692	0.286	166,395	
43	Dredge, Scallop	OPEN	LIM	NE	all	4,486,282	97,117	4,389,165	0.255	1,117,287	
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0			
47	Pots and Traps, Other	OPEN	all	NE	all	10	10				P
48	Pots and Traps, Fish	OPEN	all	MA	all	419	419	0			
49	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	507	159	347	1.725	599	
53	Pots and Traps, Lobster	OPEN	all	NE	all	80	80	0			
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	60	0	60	0.572	34	
56	Beam Trawl	OPEN	all	MA	sm	190	190				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	258,835	14,439	244,396	0.362	88,486	
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	362,859	2,000	360,859	0.270	97,558	
	Confidential fleets					38,624	12,442	26,182	0.382	10,007	
	Other minor fleets					2,677	2,677				
					TOTAL	36,244,068	20,076,595	16,167,473	0.086	1,383,349	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equal 0. "P" indicates fleets with "pilot" designation.
Species Group: RED DEEPSEA CRAB (Chaceon quinquedens)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	0	0	0			
2	Longline, Bottom	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	0	0	0			
4	Hand Line	OPEN	all	NE	all	0	0	0			
5	Otter Trawl	OPEN	all	MA	sm	0	0	0			
6	Otter Trawl	OPEN	all	MA	lg	0	0	0			
7	Otter Trawl	OPEN	all	NE	sm	695	0	695	0.740	514	
8	Otter Trawl	OPEN	all	NE	lg	15,140	0	15,140	0.323	4,884	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	4	0	4	0.722	3	
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	0	0				P
24	Otter Trawl, Other	OPEN	all	NE	sm	0	0				P
25	Otter Trawl, Other	OPEN	all	NE	lg	0	0				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	0	0	0			
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	0	0	0			
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	0	0	0			
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	18	0	18	0.630	11	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	0	0	0			
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equal 0. "P" indicates fleets with "pilot" designation.
Species Group: RED DEEPSEA CRAB (Chaceon quinquedens)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	0	0	0			
37	Dredge, Scallop	AA	GEN	NE	all	0	0	0			
38	Dredge, Scallop	AA	LIM	MA	all	0	0	0			
39	Dredge, Scallop	AA	LIM	NE	all	0	0	0			
40	Dredge, Scallop	OPEN	GEN	MA	all	0	0	0			
41	Dredge, Scallop	OPEN	GEN	NE	all	37	0	37	1.217	44	
42	Dredge, Scallop	OPEN	LIM	MA	all	0	0	0			
43	Dredge, Scallop	OPEN	LIM	NE	all	0	0	0			
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0			
47	Pots and Traps, Other	OPEN	all	NE	all	0	0				P
48	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			
49	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	3,550	3,550	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	15,349	10,604	4,745	0.452	2,146	
53	Pots and Traps, Lobster	OPEN	all	NE	all	146,523	140,124	6,399	2.407	15,401	
54	Pots and Traps, Crab	OPEN	all	MA	all	125,281	89,060	36,221	0.120	4,353	
55	Pots and Traps, Crab	OPEN	all	NE	all	4,815,781	3,812,063	1,003,718	0.230	230,568	
56	Beam Trawl	OPEN	all	MA	sm	0	0				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	0	0	0			
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	0	0	0			
	Confidential fleets					0	0	0			
	Other minor fleets					0	0				
					TOTAL	5,122,378	4,055,401	1,066,977	0.217	231,185	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equal 0. "P" indicates fleets with "pilot" designation.
Species Group: SEA SCALLOP (Placopecten magellanicus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	0	0	0			
2	Longline, Bottom	OPEN	all	NE	all	38	0	38	0.755	29	
3	Hand Line	OPEN	all	MA	all	0	0	0			
4	Hand Line	OPEN	all	NE	all	228	0	228	0.438	100	
5	Otter Trawl	OPEN	all	MA	sm	130,339	4,873	125,465	0.350	43,907	
6	Otter Trawl	OPEN	all	MA	lg	665,054	543,897	121,157	1.091	132,184	
7	Otter Trawl	OPEN	all	NE	sm	39,266	3,699	35,568	0.523	18,614	
8	Otter Trawl	OPEN	all	NE	lg	85,592	33,204	52,388	0.319	16,714	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	40,317	40,317				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	512,777	490,729	22,049	0.000	0	P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	10,338	10,338				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	10	0	10	0.490	5	
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	658	658				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	0	0				P
24	Otter Trawl, Other	OPEN	all	NE	sm	541	541				P
25	Otter Trawl, Other	OPEN	all	NE	lg	0	0				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	0	0	0			
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	0	0	0			
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	331	0	331	0.569	189	
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	288	0	288	0.975	281	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	1,250	0	1,250	0.608	761	
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equal 0. "P" indicates fleets with "pilot" designation.
Species Group: SEA SCALLOP (Placopecten magellanicus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	7,189,481	6,614,428	575,053	0.290	166,526	
37	Dredge, Scallop	AA	GEN	NE	all	6,710,026	6,327,970	382,056	0.178	68,035	
38	Dredge, Scallop	AA	LIM	MA	all	76,532,376	74,713,411	1,818,965	0.265	481,436	
39	Dredge, Scallop	AA	LIM	NE	all	281,083,067	262,285,928	18,797,139	0.109	2,050,403	
40	Dredge, Scallop	OPEN	GEN	MA	all	6,217,537	5,765,909	451,627	0.238	107,321	
41	Dredge, Scallop	OPEN	GEN	NE	all	7,482,287	7,236,949	245,337	0.363	89,131	
42	Dredge, Scallop	OPEN	LIM	MA	all	28,337,978	27,665,096	672,881	0.480	322,692	
43	Dredge, Scallop	OPEN	LIM	NE	all	107,268,966	103,015,226	4,253,740	0.132	560,568	
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0			
47	Pots and Traps, Other	OPEN	all	NE	all	0	0				P
48	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			
49	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			
53	Pots and Traps, Lobster	OPEN	all	NE	all	4,363	0	4,363	0.723	3,155	
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			
56	Beam Trawl	OPEN	all	MA	sm	0	0				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	1,637,746	743,727	894,018	0.314	280,387	
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	1,223,615	878,282	345,333	0.381	131,569	
	Confidential fleets					181,191	178,778	2,413	0.272	657	
	Other minor fleets					152,014	152,014				
					TOTAL	525,507,673	496,705,975	28,801,698	0.078	2,241,001	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equal 0. "P" indicates fleets with "pilot" designation.
Species Group: SKATE COMPLEX (Rajidae)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	94,551	531	94,019	0.485	45,602	
2	Longline, Bottom	OPEN	all	NE	all	78,757	30,971	47,785	0.298	14,228	
3	Hand Line	OPEN	all	MA	all	1,344	107	1,236	1.006	1,244	
4	Hand Line	OPEN	all	NE	all	138	138	0			
5	Otter Trawl	OPEN	all	MA	sm	4,838,702	554,864	4,283,838	0.161	691,523	
6	Otter Trawl	OPEN	all	MA	lg	8,215,705	3,856,460	4,359,245	0.150	655,226	
7	Otter Trawl	OPEN	all	NE	sm	2,327,495	429,480	1,898,014	0.207	391,970	
8	Otter Trawl	OPEN	all	NE	lg	20,235,910	7,144,212	13,091,698	0.250	3,275,711	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	71,242	0	71,242	0.000	0	P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	11,400	11,400				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	1,022	1,022				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	421,746	1,816	419,930	0.288	120,991	
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	0	0				P
24	Otter Trawl, Other	OPEN	all	NE	sm	20,589	20,589				P
25	Otter Trawl, Other	OPEN	all	NE	lg	6,311	6,311				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	854	268	586	0.207	121	
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	70,673	46,816	23,858	0.140	3,330	
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	2,213,379	2,023,587	189,792	0.151	28,747	
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	581,924	440,880	141,044	0.155	21,892	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	14,975,017	13,588,216	1,386,801	0.280	388,288	
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equal 0. "P" indicates fleets with "pilot" designation.
Species Group: SKATE COMPLEX (Rajidae)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	147,022	112	146,910	0.189	27,780	
37	Dredge, Scallop	AA	GEN	NE	all	75,839	0	75,839	0.129	9,820	
38	Dredge, Scallop	AA	LIM	MA	all	916,452	0	916,452	0.145	132,932	
39	Dredge, Scallop	AA	LIM	NE	all	12,025,927	5,100	12,020,827	0.093	1,113,640	
40	Dredge, Scallop	OPEN	GEN	MA	all	1,184,705	9,361	1,175,344	0.115	134,584	
41	Dredge, Scallop	OPEN	GEN	NE	all	353,806	0	353,806	0.296	104,826	
42	Dredge, Scallop	OPEN	LIM	MA	all	1,636,548	114	1,636,434	0.164	268,945	
43	Dredge, Scallop	OPEN	LIM	NE	all	3,875,965	7,500	3,868,465	0.173	668,791	
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0			
47	Pots and Traps, Other	OPEN	all	NE	all	0	0				P
48	Pots and Traps, Fish	OPEN	all	MA	all	449	449	0			
49	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	310	0	310	0.791	245	
53	Pots and Traps, Lobster	OPEN	all	NE	all	136	136	0			
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	15	0	15	1.416	21	
56	Beam Trawl	OPEN	all	MA	sm	250	250				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	462,843	0	462,843	0.238	110,155	
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	1,290,948	0	1,290,948	0.272	350,727	
	Confidential fleets					269,609	18,507	251,102	0.071	17,917	
	Other minor fleets					977	977				
					TOTAL	76,408,556	28,200,173	48,208,383	0.077	3,728,722	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equal 0. "P" indicates fleets with "pilot" designation.
Species Group: SMALL MESH GROUNDFISH

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	534	299	235	0.552	129	
2	Longline, Bottom	OPEN	all	NE	all	460	433	27	0.676	18	
3	Hand Line	OPEN	all	MA	all	1,161	1,161	0			
4	Hand Line	OPEN	all	NE	all	397	397	0			
5	Otter Trawl	OPEN	all	MA	sm	3,360,903	2,202,438	1,158,465	0.196	227,369	
6	Otter Trawl	OPEN	all	MA	lg	251,900	185,266	66,634	0.297	19,768	
7	Otter Trawl	OPEN	all	NE	sm	11,495,647	8,384,844	3,110,803	0.164	511,075	
8	Otter Trawl	OPEN	all	NE	lg	1,010,700	642,524	368,176	0.106	39,143	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	22,463	22,463				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	7,255	345	6,910	0.514	3,550	
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	0	0				P
24	Otter Trawl, Other	OPEN	all	NE	sm	722,128	722,128				P
25	Otter Trawl, Other	OPEN	all	NE	lg	20,000	20,000				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	153	153	0			
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	61	56	5	0.873	5	
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	5,092	5,058	34	0.600	21	
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	33,172	23,197	9,975	0.236	2,357	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	10,376	6,386	3,990	0.711	2,837	
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equal 0. "P" indicates fleets with "pilot" designation.
Species Group: SMALL MESH GROUNDFISH

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	832	0	832	0.287	239	
37	Dredge, Scallop	AA	GEN	NE	all	23,179	0	23,179	0.216	5,001	
38	Dredge, Scallop	AA	LIM	MA	all	20,104	0	20,104	0.504	10,136	
39	Dredge, Scallop	AA	LIM	NE	all	487,087	10	487,077	0.125	61,101	
40	Dredge, Scallop	OPEN	GEN	MA	all	2,125	0	2,125	0.251	534	
41	Dredge, Scallop	OPEN	GEN	NE	all	2,492	0	2,492	0.517	1,288	
42	Dredge, Scallop	OPEN	LIM	MA	all	21,369	0	21,369	0.534	11,420	
43	Dredge, Scallop	OPEN	LIM	NE	all	114,937	0	114,937	0.176	20,175	
45	Trawl, Midwater Paired&Single	all	all	NE	sm	6,703	6,703	0			
47	Pots and Traps, Other	OPEN	all	NE	all	475	475				P
48	Pots and Traps, Fish	OPEN	all	MA	all	4,378	4,267	111	1.059	118	
49	Pots and Traps, Fish	OPEN	all	NE	all	669	669	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	237	0	237	0.511	121	
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	14,988	14,053	935	1.310	1,225	
53	Pots and Traps, Lobster	OPEN	all	NE	all	25,135	10,989	14,146	2.407	34,043	
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	5	0	5	1.338	7	
56	Beam Trawl	OPEN	all	MA	sm	34,655	34,655				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	187	0	187	0.896	168	
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	3,403	0	3,403	0.477	1,625	
	Confidential fleets					89,064	10,256	78,808	0.225	17,704	
	Other minor fleets					5,326	5,326				
					TOTAL	17,799,752	12,304,551	5,495,201	0.103	566,322	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equal 0. "P" indicates fleets with "pilot" designation.
Species Group: SPINY DOGFISH (Squalus acanthias)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	84,226	79,605	4,621	0.984	4,548	
2	Longline, Bottom	OPEN	all	NE	all	4,117,250	3,882,160	235,090	0.162	38,021	
3	Hand Line	OPEN	all	MA	all	2,503	884	1,619	1.992	3,224	
4	Hand Line	OPEN	all	NE	all	10,031	164	9,867	0.529	5,221	
5	Otter Trawl	OPEN	all	MA	sm	3,495,120	177,043	3,318,077	0.165	547,719	
6	Otter Trawl	OPEN	all	MA	lg	775,102	124,213	650,889	0.249	162,050	
7	Otter Trawl	OPEN	all	NE	sm	2,406,080	52,778	2,353,302	0.259	609,316	
8	Otter Trawl	OPEN	all	NE	lg	2,523,545	107,428	2,416,117	0.176	426,016	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	563	0	563	0.000	0	P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	43,174	195	42,979	0.475	20,432	
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	0	0				P
24	Otter Trawl, Other	OPEN	all	NE	sm	0	0				P
25	Otter Trawl, Other	OPEN	all	NE	lg	0	0				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	2,954,665	2,858,506	96,159	0.157	15,073	
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	3,897,059	3,772,522	124,537	0.243	30,316	
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	124,041	72,173	51,868	0.506	26,270	
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	3,969,342	3,351,580	617,762	0.343	211,738	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	990,046	808,162	181,884	0.341	62,096	
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equal 0. "P" indicates fleets with "pilot" designation.

Species Group: SPINY DOGFISH (Squalus acanthias)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	5,354	0	5,354	0.908	4,863	
37	Dredge, Scallop	AA	GEN	NE	all	1,000	0	1,000	0.450	450	
38	Dredge, Scallop	AA	LIM	MA	all	18,277	0	18,277	0.407	7,439	
39	Dredge, Scallop	AA	LIM	NE	all	207,151	0	207,151	0.166	34,413	
40	Dredge, Scallop	OPEN	GEN	MA	all	4,185	125	4,060	0.350	1,420	
41	Dredge, Scallop	OPEN	GEN	NE	all	125	0	125	1.246	156	
42	Dredge, Scallop	OPEN	LIM	MA	all	1,945	0	1,945	0.648	1,261	
43	Dredge, Scallop	OPEN	LIM	NE	all	16,526	0	16,526	0.443	7,314	
45	Trawl, Midwater Paired&Single	all	all	NE	sm	120,825	5,000	115,825	0.898	104,013	
47	Pots and Traps, Other	OPEN	all	NE	all	0	0				P
48	Pots and Traps, Fish	OPEN	all	MA	all	5	5	0			
49	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			
53	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0			
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	7	0	7	1.416	10	
56	Beam Trawl	OPEN	all	MA	sm	0	0				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	116,863	0	116,863	1.030	120,424	
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	418,404	0	418,404	0.930	389,271	
	Confidential fleets					32,692	0	32,692	0.411	13,424	
	Other minor fleets					0	0				
					TOTAL	26,336,106	15,292,543	11,043,563	0.095	1,053,476	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equal 0. "P" indicates fleets with "pilot" designation.

Species Group: SQUID (Doryteuthis [Amerigo] pealeii, Illex illecebrosus) - BUTTERFISH (Peprilus triacanthus) - MACKEREL (Scomber scombrus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	0	0	0			
2	Longline, Bottom	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	247	247	0			
4	Hand Line	OPEN	all	NE	all	935,299	935,299	0			
5	Otter Trawl	OPEN	all	MA	sm	37,918,633	34,075,709	3,842,924	0.197	757,484	
6	Otter Trawl	OPEN	all	MA	lg	342,116	313,720	28,396	0.395	11,218	
7	Otter Trawl	OPEN	all	NE	sm	53,659,571	48,370,275	5,289,296	0.299	1,581,026	
8	Otter Trawl	OPEN	all	NE	lg	537,825	438,071	99,754	0.266	26,512	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	595,803	595,803				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	1,169	0	1,169	0.538	629	
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	615	615				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	66,779	66,779				P
24	Otter Trawl, Other	OPEN	all	NE	sm	853,155	853,155				P
25	Otter Trawl, Other	OPEN	all	NE	lg	14,300	14,300				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	999	999				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	9,106	7,194	1,912	0.505	966	
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	1,650	943	707	0.530	375	
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	518	505	13	0.538	7	
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	8,558	4,953	3,605	0.340	1,226	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	1,800	529	1,271	0.575	731	
34	Purse Seine	OPEN	all	MA	all	1	1				P
35	Purse Seine	OPEN	all	NE	all	52	0	52	1.369	71	

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equal 0. "P" indicates fleets with "pilot" designation.

Species Group: SQUID (Doryteuthis [Amerigo] pealeii, Illex illecebrosus) - BUTTERFISH (Peprilus triacanthus) - MACKEREL (Scomber scombrus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	575	6	569	0.373	212	
37	Dredge, Scallop	AA	GEN	NE	all	24	0	24	0.693	17	
38	Dredge, Scallop	AA	LIM	MA	all	2,419	0	2,419	0.241	583	
39	Dredge, Scallop	AA	LIM	NE	all	4,183	0	4,183	0.165	688	
40	Dredge, Scallop	OPEN	GEN	MA	all	858	145	713	0.331	236	
41	Dredge, Scallop	OPEN	GEN	NE	all	232	0	232	0.437	101	
42	Dredge, Scallop	OPEN	LIM	MA	all	6,981	52	6,929	0.367	2,544	
43	Dredge, Scallop	OPEN	LIM	NE	all	9,940	5	9,935	0.230	2,284	
45	Trawl, Midwater Paired&Single	all	all	NE	sm	3,114,916	3,114,891	25	0.932	23	
47	Pots and Traps, Other	OPEN	all	NE	all	0	0				P
48	Pots and Traps, Fish	OPEN	all	MA	all	8,563	8,563	0			
49	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			
53	Pots and Traps, Lobster	OPEN	all	NE	all	900	900	0			
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			
56	Beam Trawl	OPEN	all	MA	sm	386,780	386,780				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	0	0	0			
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	0	0	0			
	Confidential fleets					8,227,354	7,559,440	667,914	0.240	160,554	
	Other minor fleets					14,845	14,845				
					TOTAL	106,726,765	96,764,724	9,962,041	0.177	1,760,696	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equal 0. "P" indicates fleets with "pilot" designation.

Species Group: SURFCLAM (Spisula solidissima) - OCEAN QUAHOG (Arctica islandica)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	0	0	0			
2	Longline, Bottom	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	0	0	0			
4	Hand Line	OPEN	all	NE	all	0	0	0			
5	Otter Trawl	OPEN	all	MA	sm	526	0	526	0.378	199	
6	Otter Trawl	OPEN	all	MA	lg	3,310	0	3,310	0.390	1,290	
7	Otter Trawl	OPEN	all	NE	sm	681	0	681	0.507	345	
8	Otter Trawl	OPEN	all	NE	lg	11,771	0	11,771	0.491	5,776	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	0	0	0			
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	0	0				P
24	Otter Trawl, Other	OPEN	all	NE	sm	0	0				P
25	Otter Trawl, Other	OPEN	all	NE	lg	0	0				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	0	0	0			
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	0	0	0			
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	0	0	0			
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	0	0	0			
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	29	0	29	0.770	22	
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equal 0. "P" indicates fleets with "pilot" designation.

Species Group: SURFCLAM (Spisula solidissima) - OCEAN QUAHOG (Arctica islandica)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	944	0	944	0.655	619	
37	Dredge, Scallop	AA	GEN	NE	all	756	0	756	0.466	352	
38	Dredge, Scallop	AA	LIM	MA	all	0	0	0			
39	Dredge, Scallop	AA	LIM	NE	all	14,768	0	14,768	0.563	8,314	
40	Dredge, Scallop	OPEN	GEN	MA	all	42,248	42,228	20	1.059	22	
41	Dredge, Scallop	OPEN	GEN	NE	all	1,073	0	1,073	0.717	770	
42	Dredge, Scallop	OPEN	LIM	MA	all	1,964	0	1,964	0.534	1,050	
43	Dredge, Scallop	OPEN	LIM	NE	all	13,104	0	13,104	0.606	7,938	
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0			
47	Pots and Traps, Other	OPEN	all	NE	all	0	0				P
48	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			
49	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			
53	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0			
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			
56	Beam Trawl	OPEN	all	MA	sm	0	0				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	246,940,602	245,780,871	1,159,731	0.801	929,042	
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	186,839,244	186,564,628	274,615	0.579	159,036	
	Confidential fleets					295	0	295	0.292	86	
	Other minor fleets					305,163	305,163				
					TOTAL	434,176,478	432,692,890	1,483,588	0.635	942,645	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equal 0. "P" indicates fleets with "pilot" designation.

Species Group: TILEFISH

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	1,428,065	1,424,668	3,397	0.575	1,953	
2	Longline, Bottom	OPEN	all	NE	all	30	30	0			
3	Hand Line	OPEN	all	MA	all	22,499	22,499	0			
4	Hand Line	OPEN	all	NE	all	428	428	0			
5	Otter Trawl	OPEN	all	MA	sm	9,445	6,178	3,267	0.296	966	
6	Otter Trawl	OPEN	all	MA	lg	4,523	2,155	2,368	1.080	2,558	
7	Otter Trawl	OPEN	all	NE	sm	10,693	5,661	5,032	0.283	1,423	
8	Otter Trawl	OPEN	all	NE	lg	75	75	0			
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	0	0	0			
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	0	0				P
24	Otter Trawl, Other	OPEN	all	NE	sm	58	58				P
25	Otter Trawl, Other	OPEN	all	NE	lg	5	5				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	33	6	27	0.747	20	
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	0	0	0			
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	0	0	0			
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	0	0	0			
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	2,249	819	1,430	0.346	494	
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equal 0. "P" indicates fleets with "pilot" designation.
Species Group: TILEFISH

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	0	0	0			
37	Dredge, Scallop	AA	GEN	NE	all	0	0	0			
38	Dredge, Scallop	AA	LIM	MA	all	0	0	0			
39	Dredge, Scallop	AA	LIM	NE	all	0	0	0			
40	Dredge, Scallop	OPEN	GEN	MA	all	0	0	0			
41	Dredge, Scallop	OPEN	GEN	NE	all	0	0	0			
42	Dredge, Scallop	OPEN	LIM	MA	all	0	0	0			
43	Dredge, Scallop	OPEN	LIM	NE	all	0	0	0			
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0			
47	Pots and Traps, Other	OPEN	all	NE	all	0	0				P
48	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			
49	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	462	182	280	1.361	381	
53	Pots and Traps, Lobster	OPEN	all	NE	all	20	20	0			
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			
56	Beam Trawl	OPEN	all	MA	sm	0	0				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	0	0	0			
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	0	0	0			
	Confidential fleets					2,401	423	1,978	0.625	1,237	
	Other minor fleets					0	0				
					TOTAL	1,480,987	1,463,207	17,780	0.220	3,903	

See text for fleet abbreviations.

Table 5B. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.

Species: BLACK SEA BASS (Centropristis striata)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	106	0	106	2.222	236	
2	Longline, Bottom	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	78,598	64,605	13,993	0.868	12,146	
4	Hand Line	OPEN	all	NE	all	15,536	15,536	0			
5	Otter Trawl	OPEN	all	MA	sm	1,723,172	1,036,930	686,242	0.184	125,945	
6	Otter Trawl	OPEN	all	MA	lg	747,969	647,822	100,147	0.309	30,942	
7	Otter Trawl	OPEN	all	NE	sm	704,422	113,984	590,438	0.173	102,311	
8	Otter Trawl	OPEN	all	NE	lg	160,621	60,281	100,340	0.268	26,870	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	64	3	61	0.000	0	P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	503	503				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	0	0	0			
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	1,800	1,800				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	293	293				P
24	Otter Trawl, Other	OPEN	all	NE	sm	937	937				P
25	Otter Trawl, Other	OPEN	all	NE	lg	435	435				P
26	Floating Trap	OPEN	all	MA	all	550	550				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	176	69	107	0.873	94	
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	1,323	1,323	0			
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	1,114	1,114	0			
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	40,101	5,514	34,587	0.592	20,476	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	2,659	1,916	743	0.514	382	
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.

Species: BLACK SEA BASS (Centropristis striata)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	1,012	8	1,004	0.501	504	
37	Dredge, Scallop	AA	GEN	NE	all	4	0	4	0.990	4	
38	Dredge, Scallop	AA	LIM	MA	all	3,088	20	3,068	0.364	1,116	
39	Dredge, Scallop	AA	LIM	NE	all	1,937	0	1,937	0.449	869	
40	Dredge, Scallop	OPEN	GEN	MA	all	495	17	478	0.423	202	
41	Dredge, Scallop	OPEN	GEN	NE	all	368	0	368	0.732	269	
42	Dredge, Scallop	OPEN	LIM	MA	all	459	0	459	0.466	214	
43	Dredge, Scallop	OPEN	LIM	NE	all	1,003	0	1,003	0.654	656	
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0			
47	Pots and Traps, Other	OPEN	all	NE	all	7,829	7,829				P
48	Pots and Traps, Fish	OPEN	all	MA	all	468,165	325,147	143,018	0.434	62,003	
49	Pots and Traps, Fish	OPEN	all	NE	all	220,386	108,993	111,393	0.186	20,693	
50	Pots and Traps, Conch	OPEN	all	MA	all	162	112	50	0.916	45	
51	Pots and Traps, Conch	OPEN	all	NE	all	3,056	1,955	1,101	1.262	1,390	
52	Pots and Traps, Lobster	OPEN	all	MA	all	103,822	103,055	767	1.466	1,125	
53	Pots and Traps, Lobster	OPEN	all	NE	all	294,640	26,351	268,289	1.019	273,464	
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			
56	Beam Trawl	OPEN	all	MA	sm	50	50				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	3,499	0	3,499	0.582	2,038	
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	5,097	0	5,097	0.528	2,690	
	Confidential fleets					1,804	536	1,268	0.406	515	
	Other minor fleets					8,102	8,102				
					TOTAL	4,605,359	2,535,790	2,069,569	0.159	328,099	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: FLUKE (Paralichthys dentatus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	4	0	4	1.068	5	
2	Longline, Bottom	OPEN	all	NE	all	279	0	279	0.487	136	
3	Hand Line	OPEN	all	MA	all	41,965	35,868	6,097	1.228	7,488	
4	Hand Line	OPEN	all	NE	all	5,817	5,817	0			
5	Otter Trawl	OPEN	all	MA	sm	922,761	478,932	443,829	0.167	73,979	
6	Otter Trawl	OPEN	all	MA	lg	4,194,212	3,976,626	217,586	0.201	43,838	
7	Otter Trawl	OPEN	all	NE	sm	885,512	519,982	365,530	0.335	122,615	
8	Otter Trawl	OPEN	all	NE	lg	1,227,980	759,738	468,242	0.253	118,270	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	393	393	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	3,359	3,359				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	1,100	1,100				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	360	360				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	390	390	0			
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	13,472	13,472				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	300	300				P
24	Otter Trawl, Other	OPEN	all	NE	sm	2,559	2,559				P
25	Otter Trawl, Other	OPEN	all	NE	lg	14,127	14,127				P
26	Floating Trap	OPEN	all	MA	all	22	22				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	122	17	105	0.267	28	
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	2,496	1,097	1,399	0.292	408	
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	17,502	6,982	10,520	0.305	3,206	
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	14,214	9,091	5,123	0.584	2,991	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	157,291	36,623	120,668	0.266	32,061	
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.

Species: FLUKE (Paralichthys dentatus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	7,462	743	6,719	0.400	2,690	
37	Dredge, Scallop	AA	GEN	NE	all	4,089	0	4,089	0.360	1,472	
38	Dredge, Scallop	AA	LIM	MA	all	48,994	2,515	46,479	0.309	14,365	
39	Dredge, Scallop	AA	LIM	NE	all	319,823	150	319,673	0.154	49,341	
40	Dredge, Scallop	OPEN	GEN	MA	all	27,136	8,822	18,314	0.213	3,905	
41	Dredge, Scallop	OPEN	GEN	NE	all	10,270	0	10,270	0.485	4,976	
42	Dredge, Scallop	OPEN	LIM	MA	all	37,930	6,188	31,742	0.629	19,950	
43	Dredge, Scallop	OPEN	LIM	NE	all	65,248	10	65,238	0.400	26,099	
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0			
47	Pots and Traps, Other	OPEN	all	NE	all	455	455				P
48	Pots and Traps, Fish	OPEN	all	MA	all	44,864	1,233	43,631	0.573	25,008	
49	Pots and Traps, Fish	OPEN	all	NE	all	1,872	1,233	639	1.915	1,223	
50	Pots and Traps, Conch	OPEN	all	MA	all	297	203	94	0.952	90	
51	Pots and Traps, Conch	OPEN	all	NE	all	138	0	138	0.747	103	
52	Pots and Traps, Lobster	OPEN	all	MA	all	56	56	0			
53	Pots and Traps, Lobster	OPEN	all	NE	all	7,423	29	7,394	1.019	7,536	
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			
56	Beam Trawl	OPEN	all	MA	sm	45	45				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	10,312	0	10,312	0.599	6,177	
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	20,732	0	20,732	0.312	6,461	
	Confidential fleets					19,691	9,275	10,416	0.482	5,026	
	Other minor fleets					21,410	21,410				
					TOTAL	8,154,483	5,919,222	2,235,261	0.092	205,131	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: SCUP (Stenotomus chrysops)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	0	0	0			
2	Longline, Bottom	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	34,760	31,327	3,433	1.520	5,217	
4	Hand Line	OPEN	all	NE	all	2,540	2,540	0			
5	Otter Trawl	OPEN	all	MA	sm	6,138,064	4,830,909	1,307,155	0.161	210,057	
6	Otter Trawl	OPEN	all	MA	lg	1,773,769	1,541,869	231,900	0.252	58,498	
7	Otter Trawl	OPEN	all	NE	sm	5,246,467	2,692,531	2,553,936	0.270	688,595	
8	Otter Trawl	OPEN	all	NE	lg	1,901,026	1,218,576	682,450	0.227	154,746	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	21	21				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	24,530	24,530				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	14,210	14,210				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	0	0	0			
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	2,100	2,100				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	1,635	1,635				P
24	Otter Trawl, Other	OPEN	all	NE	sm	1,247	1,247				P
25	Otter Trawl, Other	OPEN	all	NE	lg	64,830	64,830				P
26	Floating Trap	OPEN	all	MA	all	210	210				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	26	26	0			
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	2,116	2,093	23	1.085	25	
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	25	25	0			
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	61,843	58,495	3,348	0.369	1,235	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	7,583	7,251	332	0.818	272	
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: SCUP (Stenotomus chrysops)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	98	0	98	0.677	67	
37	Dredge, Scallop	AA	GEN	NE	all	5	0	5	0.989	5	
38	Dredge, Scallop	AA	LIM	MA	all	154	0	154	0.471	73	
39	Dredge, Scallop	AA	LIM	NE	all	604	0	604	0.293	177	
40	Dredge, Scallop	OPEN	GEN	MA	all	295	4	291	0.675	197	
41	Dredge, Scallop	OPEN	GEN	NE	all	0	0	0			
42	Dredge, Scallop	OPEN	LIM	MA	all	94	0	94	0.626	59	
43	Dredge, Scallop	OPEN	LIM	NE	all	84	0	84	0.875	74	
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0			
47	Pots and Traps, Other	OPEN	all	NE	all	846	846				P
48	Pots and Traps, Fish	OPEN	all	MA	all	12,441	5,701	6,740	0.808	5,448	
49	Pots and Traps, Fish	OPEN	all	NE	all	208,124	153,326	54,798	0.534	29,248	
50	Pots and Traps, Conch	OPEN	all	MA	all	17	0	17	1.272	21	
51	Pots and Traps, Conch	OPEN	all	NE	all	702	572	130	2.062	268	
52	Pots and Traps, Lobster	OPEN	all	MA	all	482	482	0			
53	Pots and Traps, Lobster	OPEN	all	NE	all	86,977	2,476	84,501	1.019	86,130	
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			
56	Beam Trawl	OPEN	all	MA	sm	40	40				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	0	0	0			
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	0	0	0			
	Confidential fleets					39,194	15,350	23,844	0.390	9,292	
	Other minor fleets					4,160	4,160				
					TOTAL	15,631,319	10,677,382	4,953,937	0.150	744,362	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: AMERICAN PLAICE (Hippoglossoides platessoides)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	0	0	0			
2	Longline, Bottom	OPEN	all	NE	all	5	5	0			
3	Hand Line	OPEN	all	MA	all	0	0	0			
4	Hand Line	OPEN	all	NE	all	0	0	0			
5	Otter Trawl	OPEN	all	MA	sm	237	10	227	0.790	180	
6	Otter Trawl	OPEN	all	MA	lg	24,981	24,971	10	1.333	13	
7	Otter Trawl	OPEN	all	NE	sm	35,193	0	35,193	0.333	11,733	
8	Otter Trawl	OPEN	all	NE	lg	2,207,220	2,101,603	105,617	0.140	14,832	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	19,711	16,823	2,888	0.528	1,524	
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	0	0				P
24	Otter Trawl, Other	OPEN	all	NE	sm	0	0				P
25	Otter Trawl, Other	OPEN	all	NE	lg	0	0				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	0	0	0			
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	0	0	0			
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	0	0	0			
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	14,222	12,608	1,614	0.286	461	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	581	421	160	0.792	126	
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.

Species: AMERICAN PLAICE (Hippoglossoides platessoides)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	0	0	0			
37	Dredge, Scallop	AA	GEN	NE	all	449	0	449	0.557	250	
38	Dredge, Scallop	AA	LIM	MA	all	42	0	42	1.081	45	
39	Dredge, Scallop	AA	LIM	NE	all	5,569	0	5,569	0.237	1,317	
40	Dredge, Scallop	OPEN	GEN	MA	all	0	0	0			
41	Dredge, Scallop	OPEN	GEN	NE	all	326	0	326	0.704	229	
42	Dredge, Scallop	OPEN	LIM	MA	all	0	0	0			
43	Dredge, Scallop	OPEN	LIM	NE	all	7,924	0	7,924	0.682	5,407	
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0			
47	Pots and Traps, Other	OPEN	all	NE	all	0	0				P
48	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			
49	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			
53	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0			
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			
56	Beam Trawl	OPEN	all	MA	sm	0	0				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	0	0	0			
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	0	0	0			
	Confidential fleets					45	45	0			
	Other minor fleets					0	0				
					TOTAL	2,316,504	2,156,486	160,018	0.124	19,781	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: ATLANTIC COD (Gadus morhua)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	0	0	0			
2	Longline, Bottom	OPEN	all	NE	all	35,658	34,229	1,429	1.277	1,825	
3	Hand Line	OPEN	all	MA	all	1,564	920	644	0.472	304	
4	Hand Line	OPEN	all	NE	all	74,991	36,761	38,230	0.187	7,140	
5	Otter Trawl	OPEN	all	MA	sm	358	95	263	0.345	91	
6	Otter Trawl	OPEN	all	MA	lg	8,804	8,784	20	1.333	26	
7	Otter Trawl	OPEN	all	NE	sm	4,867	15	4,852	0.824	3,998	
8	Otter Trawl	OPEN	all	NE	lg	1,516,276	1,500,308	15,968	0.308	4,918	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	235	235				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	113,664	109,255	4,409	0.766	3,379	
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	0	0				P
24	Otter Trawl, Other	OPEN	all	NE	sm	0	0				P
25	Otter Trawl, Other	OPEN	all	NE	lg	0	0				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	36	0	36	0.865	31	
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	20	0	20	0.888	18	
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	50	50	0			
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	223,399	211,770	11,629	0.202	2,350	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	33,072	18,603	14,469	0.533	7,707	
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: ATLANTIC COD (Gadus morhua)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	0	0	0			
37	Dredge, Scallop	AA	GEN	NE	all	179	21	158	0.425	67	
38	Dredge, Scallop	AA	LIM	MA	all	119	30	89	0.719	64	
39	Dredge, Scallop	AA	LIM	NE	all	5,878	69	5,809	0.173	1,008	
40	Dredge, Scallop	OPEN	GEN	MA	all	44	5	39	0.918	36	
41	Dredge, Scallop	OPEN	GEN	NE	all	332	0	332	0.678	225	
42	Dredge, Scallop	OPEN	LIM	MA	all	40	40	0			
43	Dredge, Scallop	OPEN	LIM	NE	all	3,395	0	3,395	0.300	1,019	
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0			
47	Pots and Traps, Other	OPEN	all	NE	all	10	10				P
48	Pots and Traps, Fish	OPEN	all	MA	all	436	27	409	1.527	625	
49	Pots and Traps, Fish	OPEN	all	NE	all	171	40	131	0.885	116	
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	4	4	0			
53	Pots and Traps, Lobster	OPEN	all	NE	all	35,270	41	35,229	1.812	63,846	
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			
56	Beam Trawl	OPEN	all	MA	sm	0	0				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	0	0	0			
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	44	0	44	1.307	58	
	Confidential fleets					20	20	0			
	Other minor fleets					0	0				
					TOTAL	2,058,936	1,921,332	137,604	0.474	65,190	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: ATLANTIC HALIBUT (Hippoglossus hippoglossus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	0	0	0			
2	Longline, Bottom	OPEN	all	NE	all	2,458	2,458	0			
3	Hand Line	OPEN	all	MA	all	0	0	0			
4	Hand Line	OPEN	all	NE	all	13,609	594	13,015	0.438	5,703	
5	Otter Trawl	OPEN	all	MA	sm	0	0	0			
6	Otter Trawl	OPEN	all	MA	lg	73	73	0			
7	Otter Trawl	OPEN	all	NE	sm	1,568	138	1,430	0.379	542	
8	Otter Trawl	OPEN	all	NE	lg	104,792	33,579	71,213	0.351	24,983	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	8,542	1,770	6,772	0.346	2,342	
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	0	0				P
24	Otter Trawl, Other	OPEN	all	NE	sm	0	0				P
25	Otter Trawl, Other	OPEN	all	NE	lg	0	0				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	0	0	0			
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	0	0	0			
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	33	33	0			
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	8,169	3,606	4,563	0.372	1,698	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	130,148	7,074	123,074	0.406	49,980	
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: ATLANTIC HALIBUT (Hippoglossus hippoglossus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	0	0	0			
37	Dredge, Scallop	AA	GEN	NE	all	0	0	0			
38	Dredge, Scallop	AA	LIM	MA	all	0	0	0			
39	Dredge, Scallop	AA	LIM	NE	all	0	0	0			
40	Dredge, Scallop	OPEN	GEN	MA	all	0	0	0			
41	Dredge, Scallop	OPEN	GEN	NE	all	0	0	0			
42	Dredge, Scallop	OPEN	LIM	MA	all	0	0	0			
43	Dredge, Scallop	OPEN	LIM	NE	all	0	0	0			
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0			
47	Pots and Traps, Other	OPEN	all	NE	all	0	0				P
48	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			
49	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			
53	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0			
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			
56	Beam Trawl	OPEN	all	MA	sm	0	0				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	0	0	0			
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	0	0	0			
	Confidential fleets					0	0	0			
	Other minor fleets					0	0				
					TOTAL	269,393	49,325	220,068	0.256	56,244	

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: ATLANTIC WOLFFISH (Anarhichas lupus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	0	0	0			
2	Longline, Bottom	OPEN	all	NE	all	2,590	0	2,590	1.111	2,876	
3	Hand Line	OPEN	all	MA	all	0	0	0			
4	Hand Line	OPEN	all	NE	all	1,479	0	1,479	0.471	697	
5	Otter Trawl	OPEN	all	MA	sm	0	0	0			
6	Otter Trawl	OPEN	all	MA	lg	0	0	0			
7	Otter Trawl	OPEN	all	NE	sm	847	0	847	0.399	337	
8	Otter Trawl	OPEN	all	NE	lg	30,541	0	30,541	0.196	5,973	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	232	0	232	0.490	114	
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	0	0				P
24	Otter Trawl, Other	OPEN	all	NE	sm	0	0				P
25	Otter Trawl, Other	OPEN	all	NE	lg	0	0				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	0	0	0			
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	0	0	0			
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	0	0	0			
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	2,305	0	2,305	0.303	698	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	1,259	0	1,259	0.644	811	
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: ATLANTIC WOLFFISH (Anarhichas lupus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	0	0	0			
37	Dredge, Scallop	AA	GEN	NE	all	0	0	0			
38	Dredge, Scallop	AA	LIM	MA	all	0	0	0			
39	Dredge, Scallop	AA	LIM	NE	all	394	0	394	0.551	217	
40	Dredge, Scallop	OPEN	GEN	MA	all	0	0	0			
41	Dredge, Scallop	OPEN	GEN	NE	all	0	0	0			
42	Dredge, Scallop	OPEN	LIM	MA	all	0	0	0			
43	Dredge, Scallop	OPEN	LIM	NE	all	0	0	0			
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0			
47	Pots and Traps, Other	OPEN	all	NE	all	0	0				P
48	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			
49	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			
53	Pots and Traps, Lobster	OPEN	all	NE	all	6,868	0	6,868	4.849	33,304	
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			
56	Beam Trawl	OPEN	all	MA	sm	0	0				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	0	0	0			
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	0	0	0			
	Confidential fleets					0	0	0			
	Other minor fleets					0	0				
					TOTAL	46,515	0	46,515	0.731	33,984	

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.

Species: HADDOCK (Melanogrammus aeglefinus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	34	0	34	0.773	26	
2	Longline, Bottom	OPEN	all	NE	all	171,990	162,717	9,273	0.833	7,722	
3	Hand Line	OPEN	all	MA	all	44	44	0			
4	Hand Line	OPEN	all	NE	all	33,064	26,903	6,161	0.447	2,751	
5	Otter Trawl	OPEN	all	MA	sm	46,800	2,790	44,010	0.334	14,691	
6	Otter Trawl	OPEN	all	MA	lg	48,164	44,777	3,387	0.705	2,387	
7	Otter Trawl	OPEN	all	NE	sm	170,812	4,910	165,902	0.282	46,863	
8	Otter Trawl	OPEN	all	NE	lg	12,723,034	11,959,417	763,617	0.191	146,046	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	53,575	53,575				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	2,965,617	2,610,955	354,662	0.139	49,185	
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	0	0				P
24	Otter Trawl, Other	OPEN	all	NE	sm	0	0				P
25	Otter Trawl, Other	OPEN	all	NE	lg	0	0				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	0	0	0			
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	0	0	0			
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	0	0	0			
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	33,495	27,349	6,146	0.273	1,675	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	1,622	1,074	548	0.752	412	
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: HADDOCK (Melanogrammus aeglefinus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	0	0	0			
37	Dredge, Scallop	AA	GEN	NE	all	279	0	279	0.399	111	
38	Dredge, Scallop	AA	LIM	MA	all	1,462	30	1,432	0.960	1,376	
39	Dredge, Scallop	AA	LIM	NE	all	15,479	15	15,464	0.172	2,663	
40	Dredge, Scallop	OPEN	GEN	MA	all	0	0	0			
41	Dredge, Scallop	OPEN	GEN	NE	all	0	0	0			
42	Dredge, Scallop	OPEN	LIM	MA	all	100	5	95	0.813	77	
43	Dredge, Scallop	OPEN	LIM	NE	all	2,281	0	2,281	0.622	1,417	
45	Trawl, Midwater Paired&Single	all	all	NE	sm	5,635	5,635	0			
47	Pots and Traps, Other	OPEN	all	NE	all	0	0				P
48	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			
49	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			
53	Pots and Traps, Lobster	OPEN	all	NE	all	50,185	0	50,185	2.407	120,773	
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			
56	Beam Trawl	OPEN	all	MA	sm	0	0				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	0	0	0			
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	61	0	61	1.297	79	
	Confidential fleets					43,022	42,983	39	0.432	17	
	Other minor fleets					915	915				
					TOTAL	16,367,669	14,944,094	1,423,575	0.142	202,073	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: OCEAN POUT (Zoarces americanus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	0	0	0			
2	Longline, Bottom	OPEN	all	NE	all	120	0	120	1.187	142	
3	Hand Line	OPEN	all	MA	all	0	0	0			
4	Hand Line	OPEN	all	NE	all	651	0	651	0.488	317	
5	Otter Trawl	OPEN	all	MA	sm	42,615	0	42,615	0.278	11,864	
6	Otter Trawl	OPEN	all	MA	lg	1,239	0	1,239	0.492	610	
7	Otter Trawl	OPEN	all	NE	sm	26,076	0	26,076	0.364	9,490	
8	Otter Trawl	OPEN	all	NE	lg	64,546	0	64,546	0.358	23,083	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	164	0	164	0.490	80	
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	0	0				P
24	Otter Trawl, Other	OPEN	all	NE	sm	0	0				P
25	Otter Trawl, Other	OPEN	all	NE	lg	0	0				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	0	0	0			
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	44	0	44	0.891	39	
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	0	0	0			
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	157	0	157	0.601	94	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	0	0	0			
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: OCEAN POUT (Zoarces americanus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	0	0	0			
37	Dredge, Scallop	AA	GEN	NE	all	551	0	551	0.402	222	
38	Dredge, Scallop	AA	LIM	MA	all	166	0	166	1.034	172	
39	Dredge, Scallop	AA	LIM	NE	all	5,842	0	5,842	0.146	856	
40	Dredge, Scallop	OPEN	GEN	MA	all	3	0	3	1.064	3	
41	Dredge, Scallop	OPEN	GEN	NE	all	246	0	246	1.080	266	
42	Dredge, Scallop	OPEN	LIM	MA	all	0	0	0			
43	Dredge, Scallop	OPEN	LIM	NE	all	957	0	957	0.369	353	
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0			
47	Pots and Traps, Other	OPEN	all	NE	all	0	0				P
48	Pots and Traps, Fish	OPEN	all	MA	all	2,144	0	2,144	1.527	3,274	
49	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	783	0	783	0.715	560	
53	Pots and Traps, Lobster	OPEN	all	NE	all	37,386	0	37,386	2.430	90,849	
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			
56	Beam Trawl	OPEN	all	MA	sm	0	0				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	0	0	0			
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	856	0	856	0.725	620	
	Confidential fleets					0	0	0			
	Other minor fleets					0	0				
					TOTAL	184,545	0	184,545	0.515	95,027	

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: POLLOCK (Pollachius virens)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	0	0	0			
2	Longline, Bottom	OPEN	all	NE	all	1,317	821	496	1.114	553	
3	Hand Line	OPEN	all	MA	all	147	147	0			
4	Hand Line	OPEN	all	NE	all	96,971	89,889	7,082	0.476	3,371	
5	Otter Trawl	OPEN	all	MA	sm	5	0	5	0.738	4	
6	Otter Trawl	OPEN	all	MA	lg	3,216	3,216	0			
7	Otter Trawl	OPEN	all	NE	sm	24,156	100	24,056	1.019	24,520	
8	Otter Trawl	OPEN	all	NE	lg	4,797,444	4,675,022	122,422	0.353	43,263	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	85	85				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	75,983	75,462	521	0.401	209	
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	0	0				P
24	Otter Trawl, Other	OPEN	all	NE	sm	0	0				P
25	Otter Trawl, Other	OPEN	all	NE	lg	0	0				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	3	3	0			
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	45	0	45	0.888	40	
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	0	0	0			
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	762,559	688,912	73,647	0.328	24,178	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	29,860	19,001	10,859	0.429	4,655	
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: POLLOCK (Pollachius virens)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	0	0	0			
37	Dredge, Scallop	AA	GEN	NE	all	0	0	0			
38	Dredge, Scallop	AA	LIM	MA	all	0	0	0			
39	Dredge, Scallop	AA	LIM	NE	all	0	0	0			
40	Dredge, Scallop	OPEN	GEN	MA	all	0	0	0			
41	Dredge, Scallop	OPEN	GEN	NE	all	0	0	0			
42	Dredge, Scallop	OPEN	LIM	MA	all	0	0	0			
43	Dredge, Scallop	OPEN	LIM	NE	all	60	0	60	0.987	60	
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0			
47	Pots and Traps, Other	OPEN	all	NE	all	0	0				P
48	Pots and Traps, Fish	OPEN	all	MA	all	4	4	0			
49	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			
53	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0			
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			
56	Beam Trawl	OPEN	all	MA	sm	0	0				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	0	0	0			
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	0	0	0			
	Confidential fleets					0	0	0			
	Other minor fleets					50	50				
					TOTAL	5,791,906	5,552,712	239,194	0.232	55,596	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: REDFISH (Sebastes fasciatus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	0	0	0			
2	Longline, Bottom	OPEN	all	NE	all	330	330	0			
3	Hand Line	OPEN	all	MA	all	2	2	0			
4	Hand Line	OPEN	all	NE	all	2,592	2,416	176	0.474	83	
5	Otter Trawl	OPEN	all	MA	sm	82	80	2	0.832	1	
6	Otter Trawl	OPEN	all	MA	lg	20	20	0			
7	Otter Trawl	OPEN	all	NE	sm	20,936	2,083	18,853	0.522	9,843	
8	Otter Trawl	OPEN	all	NE	lg	11,093,734	10,982,322	111,412	0.316	35,187	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	1,500	1,500				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	75,962	75,704	258	0.395	102	
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	0	0				P
24	Otter Trawl, Other	OPEN	all	NE	sm	0	0				P
25	Otter Trawl, Other	OPEN	all	NE	lg	0	0				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	0	0	0			
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	0	0	0			
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	0	0	0			
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	20,926	20,375	551	0.245	135	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	948	948	0			
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: REDFISH (Sebastes fasciatus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	0	0	0			
37	Dredge, Scallop	AA	GEN	NE	all	0	0	0			
38	Dredge, Scallop	AA	LIM	MA	all	0	0	0			
39	Dredge, Scallop	AA	LIM	NE	all	0	0	0			
40	Dredge, Scallop	OPEN	GEN	MA	all	0	0	0			
41	Dredge, Scallop	OPEN	GEN	NE	all	0	0	0			
42	Dredge, Scallop	OPEN	LIM	MA	all	0	0	0			
43	Dredge, Scallop	OPEN	LIM	NE	all	12	0	12	1.031	13	
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0			
47	Pots and Traps, Other	OPEN	all	NE	all	0	0				P
48	Pots and Traps, Fish	OPEN	all	MA	all	16	16	0			
49	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			
53	Pots and Traps, Lobster	OPEN	all	NE	all	25,426	0	25,426	4.229	107,537	
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			
56	Beam Trawl	OPEN	all	MA	sm	0	0				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	0	0	0			
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	0	0	0			
	Confidential fleets					0	0	0			
	Other minor fleets					0	0				
					TOTAL	11,242,486	11,085,796	156,690	0.725	113,575	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: WHITE HAKE (Urophycis tenuis)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	1,055	77	978	0.393	384	
2	Longline, Bottom	OPEN	all	NE	all	637	637	0			
3	Hand Line	OPEN	all	MA	all	33	33	0			
4	Hand Line	OPEN	all	NE	all	105	105	0			
5	Otter Trawl	OPEN	all	MA	sm	1,512	14	1,498	0.502	752	
6	Otter Trawl	OPEN	all	MA	lg	3,059	535	2,524	0.707	1,784	
7	Otter Trawl	OPEN	all	NE	sm	10,227	31	10,196	0.405	4,134	
8	Otter Trawl	OPEN	all	NE	lg	2,765,396	2,746,537	18,859	0.321	6,054	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	5	5				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	12,422	12,422	0			
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	0	0				P
24	Otter Trawl, Other	OPEN	all	NE	sm	0	0				P
25	Otter Trawl, Other	OPEN	all	NE	lg	0	0				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	0	0	0			
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	0	0	0			
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	0	0	0			
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	288,612	285,967	2,645	0.299	791	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	32,286	31,457	829	0.462	383	
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: WHITE HAKE (Urophycis tenuis)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	122	0	122	0.740	90	
37	Dredge, Scallop	AA	GEN	NE	all	58	0	58	1.071	62	
38	Dredge, Scallop	AA	LIM	MA	all	0	0	0			
39	Dredge, Scallop	AA	LIM	NE	all	2,149	0	2,149	0.293	630	
40	Dredge, Scallop	OPEN	GEN	MA	all	0	0	0			
41	Dredge, Scallop	OPEN	GEN	NE	all	0	0	0			
42	Dredge, Scallop	OPEN	LIM	MA	all	105	0	105	0.860	90	
43	Dredge, Scallop	OPEN	LIM	NE	all	736	0	736	0.430	316	
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0			
47	Pots and Traps, Other	OPEN	all	NE	all	0	0				P
48	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			
49	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	170	0	170	0.452	77	
53	Pots and Traps, Lobster	OPEN	all	NE	all	20	20	0			
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	51	0	51	1.416	73	
56	Beam Trawl	OPEN	all	MA	sm	0	0				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	147	0	147	0.896	132	
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	0	0	0			
	Confidential fleets					0	0	0			
	Other minor fleets					0	0				
					TOTAL	3,118,910	3,077,840	41,070	0.187	7,678	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.

Species: WINDOWPANE FLOUNDER (Scophthalmus aquosus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	0	0	0			
2	Longline, Bottom	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	0	0	0			
4	Hand Line	OPEN	all	NE	all	0	0	0			
5	Otter Trawl	OPEN	all	MA	sm	96,297	0	96,297	0.162	15,609	
6	Otter Trawl	OPEN	all	MA	lg	78,535	0	78,535	0.196	15,403	
7	Otter Trawl	OPEN	all	NE	sm	102,947	3	102,944	0.176	18,087	
8	Otter Trawl	OPEN	all	NE	lg	308,539	0	308,539	0.154	47,396	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	887	0	887	0.477	423	
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	0	0				P
24	Otter Trawl, Other	OPEN	all	NE	sm	0	0				P
25	Otter Trawl, Other	OPEN	all	NE	lg	0	0				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	8	0	8	0.669	6	
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	581	0	581	0.212	123	
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	1	0	1	0.851	1	
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	2,819	0	2,819	0.344	970	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	84	0	84	0.745	63	
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: WINDOWPANE FLOUNDER (Scophthalmus aquosus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	2,289	0	2,289	0.404	925	
37	Dredge, Scallop	AA	GEN	NE	all	1,077	0	1,077	0.341	367	
38	Dredge, Scallop	AA	LIM	MA	all	15,459	0	15,459	0.332	5,131	
39	Dredge, Scallop	AA	LIM	NE	all	292,355	0	292,355	0.200	58,358	
40	Dredge, Scallop	OPEN	GEN	MA	all	9,618	0	9,618	0.226	2,178	
41	Dredge, Scallop	OPEN	GEN	NE	all	35,756	0	35,756	0.600	21,453	
42	Dredge, Scallop	OPEN	LIM	MA	all	4,987	0	4,987	0.453	2,261	
43	Dredge, Scallop	OPEN	LIM	NE	all	51,110	0	51,110	0.267	13,628	
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0			
47	Pots and Traps, Other	OPEN	all	NE	all	0	0				P
48	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			
49	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			
53	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0			
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			
56	Beam Trawl	OPEN	all	MA	sm	0	0				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	94	0	94	0.987	92	
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	2,742	0	2,742	0.687	1,883	
	Confidential fleets					5,761	0	5,761	0.558	3,213	
	Other minor fleets					0	0				
					TOTAL	1,011,943	3	1,011,940	0.084	84,606	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.

Species: WINTER FLOUNDER (Pseudopleuronectes americanus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	0	0	0			
2	Longline, Bottom	OPEN	all	NE	all	3	3	0			
3	Hand Line	OPEN	all	MA	all	13	13	0			
4	Hand Line	OPEN	all	NE	all	0	0	0			
5	Otter Trawl	OPEN	all	MA	sm	75,809	781	75,028	0.180	13,506	
6	Otter Trawl	OPEN	all	MA	lg	60,795	52,007	8,788	0.285	2,503	
7	Otter Trawl	OPEN	all	NE	sm	200,605	449	200,156	0.179	35,853	
8	Otter Trawl	OPEN	all	NE	lg	1,346,055	1,288,365	57,690	0.219	12,642	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	116,517	116,479	38	0.490	19	
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	0	0				P
24	Otter Trawl, Other	OPEN	all	NE	sm	0	0				P
25	Otter Trawl, Other	OPEN	all	NE	lg	0	0				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	0	0	0			
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	2,244	1	2,243	1.084	2,432	
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	6	0	6	0.843	5	
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	35,339	34,700	639	0.317	202	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	353	353	0			
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.

Species: WINTER FLOUNDER (Pseudopleuronectes americanus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	0	0	0			
37	Dredge, Scallop	AA	GEN	NE	all	486	0	486	0.319	155	
38	Dredge, Scallop	AA	LIM	MA	all	2,197	70	2,127	0.603	1,282	
39	Dredge, Scallop	AA	LIM	NE	all	106,934	1,080	105,854	0.230	24,364	
40	Dredge, Scallop	OPEN	GEN	MA	all	1,010	0	1,010	0.422	426	
41	Dredge, Scallop	OPEN	GEN	NE	all	19,073	20	19,053	0.210	4,008	
42	Dredge, Scallop	OPEN	LIM	MA	all	47	0	47	0.874	41	
43	Dredge, Scallop	OPEN	LIM	NE	all	167,260	860	166,400	0.222	36,892	
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0			
47	Pots and Traps, Other	OPEN	all	NE	all	0	0				P
48	Pots and Traps, Fish	OPEN	all	MA	all	21	0	21	1.059	22	
49	Pots and Traps, Fish	OPEN	all	NE	all	22	22	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	191	0	191	2.294	439	
53	Pots and Traps, Lobster	OPEN	all	NE	all	29	29	0			
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			
56	Beam Trawl	OPEN	all	MA	sm	0	0				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	0	0	0			
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	2,851	0	2,851	0.445	1,269	
	Confidential fleets					332	245	87	0.581	50	
	Other minor fleets					2	2				
					TOTAL	2,138,195	1,495,479	642,716	0.094	60,119	

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: WITCH FLOUNDER (Glyptocephalus cynoglossus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	0	0	0			
2	Longline, Bottom	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	0	0	0			
4	Hand Line	OPEN	all	NE	all	0	0	0			
5	Otter Trawl	OPEN	all	MA	sm	12,262	0	12,262	0.235	2,877	
6	Otter Trawl	OPEN	all	MA	lg	27,466	24,304	3,162	0.402	1,270	
7	Otter Trawl	OPEN	all	NE	sm	69,763	3	69,760	0.272	18,964	
8	Otter Trawl	OPEN	all	NE	lg	1,642,666	1,543,942	98,724	0.140	13,809	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	11,481	10,662	819	0.527	431	
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	0	0				P
24	Otter Trawl, Other	OPEN	all	NE	sm	0	0				P
25	Otter Trawl, Other	OPEN	all	NE	lg	0	0				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	0	0	0			
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	0	0	0			
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	0	0	0			
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	2,728	2,379	349	0.947	330	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	119	112	7	0.742	5	
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: WITCH FLOUNDER (Glyptocephalus cynoglossus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	197	0	197	0.498	98	
37	Dredge, Scallop	AA	GEN	NE	all	211	0	211	0.284	60	
38	Dredge, Scallop	AA	LIM	MA	all	884	0	884	0.467	413	
39	Dredge, Scallop	AA	LIM	NE	all	18,500	90	18,410	0.312	5,745	
40	Dredge, Scallop	OPEN	GEN	MA	all	80	0	80	0.983	78	
41	Dredge, Scallop	OPEN	GEN	NE	all	1,266	0	1,266	1.237	1,566	
42	Dredge, Scallop	OPEN	LIM	MA	all	326	0	326	0.476	155	
43	Dredge, Scallop	OPEN	LIM	NE	all	30,269	40	30,229	0.445	13,441	
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0			
47	Pots and Traps, Other	OPEN	all	NE	all	0	0				P
48	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			
49	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			
53	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0			
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	10	0	10	0.841	8	
56	Beam Trawl	OPEN	all	MA	sm	0	0				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	0	0	0			
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	24	0	24	1.266	30	
	Confidential fleets					261	106	155	1.121	174	
	Other minor fleets					0	0				
					TOTAL	1,818,511	1,581,638	236,873	0.118	27,873	

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: YELLOWTAIL FLOUNDER (Limanda ferruginea)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	0	0	0			
2	Longline, Bottom	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	0	0	0			
4	Hand Line	OPEN	all	NE	all	0	0	0			
5	Otter Trawl	OPEN	all	MA	sm	546	0	546	0.367	200	
6	Otter Trawl	OPEN	all	MA	lg	14,330	14,191	139	0.544	76	
7	Otter Trawl	OPEN	all	NE	sm	31,365	31	31,334	0.284	8,902	
8	Otter Trawl	OPEN	all	NE	lg	385,522	311,263	74,259	0.218	16,163	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	2	2				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	834	834	0			
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	0	0				P
24	Otter Trawl, Other	OPEN	all	NE	sm	0	0				P
25	Otter Trawl, Other	OPEN	all	NE	lg	0	0				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	0	0	0			
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	0	0	0			
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	0	0	0			
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	45,600	43,080	2,520	0.317	799	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	4,610	78	4,532	1.176	5,330	
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.

Species: YELLOWTAIL FLOUNDER (Limanda ferruginea)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	0	0	0			
37	Dredge, Scallop	AA	GEN	NE	all	445	0	445	0.274	122	
38	Dredge, Scallop	AA	LIM	MA	all	538	0	538	0.830	447	
39	Dredge, Scallop	AA	LIM	NE	all	10,103	0	10,103	0.173	1,750	
40	Dredge, Scallop	OPEN	GEN	MA	all	345	0	345	0.417	144	
41	Dredge, Scallop	OPEN	GEN	NE	all	13,619	5	13,614	0.310	4,226	
42	Dredge, Scallop	OPEN	LIM	MA	all	12	0	12	1.122	14	
43	Dredge, Scallop	OPEN	LIM	NE	all	7,610	0	7,610	0.229	1,746	
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0			
47	Pots and Traps, Other	OPEN	all	NE	all	0	0				P
48	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			
49	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			
53	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0			
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			
56	Beam Trawl	OPEN	all	MA	sm	0	0				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	0	0	0			
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	14	0	14	1.311	18	
	Confidential fleets					16	16	0			
	Other minor fleets					2	2				
					TOTAL	515,513	369,502	146,011	0.136	19,844	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: OFFSHORE HAKE (Merluccius albidus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	41	0	41	0.773	31	
2	Longline, Bottom	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	1	1	0			
4	Hand Line	OPEN	all	NE	all	0	0	0			
5	Otter Trawl	OPEN	all	MA	sm	14,512	11,670	2,842	0.642	1,825	
6	Otter Trawl	OPEN	all	MA	lg	1,229	1,229	0			
7	Otter Trawl	OPEN	all	NE	sm	15,332	1,620	13,712	0.349	4,781	
8	Otter Trawl	OPEN	all	NE	lg	156	127	29	0.884	25	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	205	205	0			
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	0	0				P
24	Otter Trawl, Other	OPEN	all	NE	sm	0	0				P
25	Otter Trawl, Other	OPEN	all	NE	lg	0	0				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	33	33	0			
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	0	0	0			
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	0	0	0			
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	0	0	0			
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	0	0	0			
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: OFFSHORE HAKE (Merluccius albidus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	0	0	0			
37	Dredge, Scallop	AA	GEN	NE	all	0	0	0			
38	Dredge, Scallop	AA	LIM	MA	all	30	0	30	1.056	31	
39	Dredge, Scallop	AA	LIM	NE	all	5	0	5	0.914	5	
40	Dredge, Scallop	OPEN	GEN	MA	all	0	0	0			
41	Dredge, Scallop	OPEN	GEN	NE	all	0	0	0			
42	Dredge, Scallop	OPEN	LIM	MA	all	0	0	0			
43	Dredge, Scallop	OPEN	LIM	NE	all	0	0	0			
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0			
47	Pots and Traps, Other	OPEN	all	NE	all	0	0				P
48	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			
49	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			
53	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0			
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			
56	Beam Trawl	OPEN	all	MA	sm	0	0				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	0	0	0			
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	0	0	0			
	Confidential fleets					0	0	0			
	Other minor fleets					0	0				
					TOTAL	31,543	14,885	16,658	0.307	5,117	

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: RED HAKE (Urophycis chuss)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	185	0	185	0.638	118	
2	Longline, Bottom	OPEN	all	NE	all	460	433	27	0.676	18	
3	Hand Line	OPEN	all	MA	all	1,155	1,155	0			
4	Hand Line	OPEN	all	NE	all	7	7	0			
5	Otter Trawl	OPEN	all	MA	sm	1,016,864	329,536	687,328	0.261	179,493	
6	Otter Trawl	OPEN	all	MA	lg	67,720	42,109	25,611	0.398	10,194	
7	Otter Trawl	OPEN	all	NE	sm	1,901,583	539,589	1,361,994	0.216	294,721	
8	Otter Trawl	OPEN	all	NE	lg	163,447	27,031	136,416	0.162	22,102	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	1,374	0	1,374	0.892	1,225	
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	0	0				P
24	Otter Trawl, Other	OPEN	all	NE	sm	100	100				P
25	Otter Trawl, Other	OPEN	all	NE	lg	0	0				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	20	20	0			
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	1	1	0			
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	18	0	18	1.037	19	
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	2,704	70	2,634	0.320	842	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	1	1	0			
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: RED HAKE (Urophycis chuss)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	597	0	597	0.382	228	
37	Dredge, Scallop	AA	GEN	NE	all	22,567	0	22,567	0.222	5,016	
38	Dredge, Scallop	AA	LIM	MA	all	18,973	0	18,973	0.533	10,104	
39	Dredge, Scallop	AA	LIM	NE	all	472,795	10	472,785	0.127	60,044	
40	Dredge, Scallop	OPEN	GEN	MA	all	1,365	0	1,365	0.297	405	
41	Dredge, Scallop	OPEN	GEN	NE	all	1,646	0	1,646	0.629	1,036	
42	Dredge, Scallop	OPEN	LIM	MA	all	20,288	0	20,288	0.566	11,491	
43	Dredge, Scallop	OPEN	LIM	NE	all	109,769	0	109,769	0.180	19,706	
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0			
47	Pots and Traps, Other	OPEN	all	NE	all	475	475				P
48	Pots and Traps, Fish	OPEN	all	MA	all	2,408	2,297	111	1.059	118	
49	Pots and Traps, Fish	OPEN	all	NE	all	669	669	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	237	0	237	0.511	121	
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	14,988	14,053	935	1.310	1,225	
53	Pots and Traps, Lobster	OPEN	all	NE	all	25,135	10,989	14,146	2.407	34,043	
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			
56	Beam Trawl	OPEN	all	MA	sm	1,000	1,000				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	0	0	0			
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	2,797	0	2,797	0.550	1,537	
	Confidential fleets					8,701	510	8,191	0.316	2,588	
	Other minor fleets					1,533	1,533				
					TOTAL	3,861,583	971,588	2,889,995	0.122	353,690	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: SILVER HAKE (Merluccius bilinearis)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	308	299	9	0.989	8	
2	Longline, Bottom	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	5	5	0			
4	Hand Line	OPEN	all	NE	all	390	390	0			
5	Otter Trawl	OPEN	all	MA	sm	2,329,527	1,861,232	468,295	0.167	78,333	
6	Otter Trawl	OPEN	all	MA	lg	182,951	141,928	41,023	0.280	11,472	
7	Otter Trawl	OPEN	all	NE	sm	9,578,732	7,843,635	1,735,097	0.157	272,516	
8	Otter Trawl	OPEN	all	NE	lg	847,097	615,366	231,731	0.129	29,964	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	22,463	22,463				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	5,676	140	5,536	0.518	2,870	
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	0	0				P
24	Otter Trawl, Other	OPEN	all	NE	sm	722,028	722,028				P
25	Otter Trawl, Other	OPEN	all	NE	lg	20,000	20,000				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	100	100	0			
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	60	55	5	0.873	5	
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	5,074	5,058	16	0.560	9	
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	30,468	23,127	7,341	0.263	1,932	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	10,375	6,385	3,990	0.711	2,837	
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: SILVER HAKE (Merluccius bilinearis)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	235	0	235	0.307	72	
37	Dredge, Scallop	AA	GEN	NE	all	612	0	612	0.236	145	
38	Dredge, Scallop	AA	LIM	MA	all	1,101	0	1,101	0.332	366	
39	Dredge, Scallop	AA	LIM	NE	all	14,287	0	14,287	0.152	2,168	
40	Dredge, Scallop	OPEN	GEN	MA	all	759	0	759	0.282	214	
41	Dredge, Scallop	OPEN	GEN	NE	all	845	0	845	0.393	332	
42	Dredge, Scallop	OPEN	LIM	MA	all	1,081	0	1,081	0.313	339	
43	Dredge, Scallop	OPEN	LIM	NE	all	5,168	0	5,168	0.253	1,306	
45	Trawl, Midwater Paired&Single	all	all	NE	sm	6,703	6,703	0			
47	Pots and Traps, Other	OPEN	all	NE	all	0	0				P
48	Pots and Traps, Fish	OPEN	all	MA	all	1,970	1,970	0			
49	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			
53	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0			
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	5	0	5	1.338	7	
56	Beam Trawl	OPEN	all	MA	sm	33,655	33,655				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	187	0	187	0.896	168	
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	605	0	605	0.598	362	
	Confidential fleets					80,364	9,746	70,618	0.241	17,028	
	Other minor fleets					3,793	3,793				
					TOTAL	13,906,625	11,318,078	2,588,547	0.110	285,915	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: ATLANTIC MACKEREL (Scomber scombrus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	0	0	0			
2	Longline, Bottom	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	240	240	0			
4	Hand Line	OPEN	all	NE	all	934,902	934,902	0			
5	Otter Trawl	OPEN	all	MA	sm	595,787	225,471	370,316	0.493	182,579	
6	Otter Trawl	OPEN	all	MA	lg	27,382	26,451	931	0.890	828	
7	Otter Trawl	OPEN	all	NE	sm	1,332,211	1,035,274	296,937	0.562	166,776	
8	Otter Trawl	OPEN	all	NE	lg	24,838	18,709	6,129	0.253	1,549	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	20,000	20,000				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	658	0	658	0.858	565	
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	220	220				P
24	Otter Trawl, Other	OPEN	all	NE	sm	56,473	56,473				P
25	Otter Trawl, Other	OPEN	all	NE	lg	100	100				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	997	997				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	1,008	750	258	0.266	68	
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	1,426	722	704	0.532	375	
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	516	505	11	0.609	7	
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	8,471	4,881	3,590	0.341	1,226	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	1,789	529	1,260	0.580	731	
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	52	0	52	1.369	71	

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: ATLANTIC MACKEREL (Scomber scombrus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	0	0	0			
37	Dredge, Scallop	AA	GEN	NE	all	0	0	0			
38	Dredge, Scallop	AA	LIM	MA	all	0	0	0			
39	Dredge, Scallop	AA	LIM	NE	all	77	0	77	0.428	33	
40	Dredge, Scallop	OPEN	GEN	MA	all	0	0	0			
41	Dredge, Scallop	OPEN	GEN	NE	all	39	0	39	0.778	31	
42	Dredge, Scallop	OPEN	LIM	MA	all	1	0	1	1.121	1	
43	Dredge, Scallop	OPEN	LIM	NE	all	14	0	14	0.692	9	
45	Trawl, Midwater Paired&Single	all	all	NE	sm	3,114,914	3,114,889	25	0.932	23	
47	Pots and Traps, Other	OPEN	all	NE	all	0	0				P
48	Pots and Traps, Fish	OPEN	all	MA	all	233	233	0			
49	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			
53	Pots and Traps, Lobster	OPEN	all	NE	all	900	900	0			
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			
56	Beam Trawl	OPEN	all	MA	sm	900	900				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	0	0	0			
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	0	0	0			
	Confidential fleets					4,463,780	4,442,775	21,005	0.393	8,264	
	Other minor fleets					0	0				
					TOTAL	10,587,927	9,885,921	702,006	0.352	247,433	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: BUTTERFISH (Peprilus triacanthus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	0	0	0			
2	Longline, Bottom	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	7	7	0			
4	Hand Line	OPEN	all	NE	all	1	1	0			
5	Otter Trawl	OPEN	all	MA	sm	1,765,446	614,352	1,151,094	0.196	226,097	
6	Otter Trawl	OPEN	all	MA	lg	51,257	34,931	16,326	0.521	8,502	
7	Otter Trawl	OPEN	all	NE	sm	8,399,840	6,530,228	1,869,612	0.222	414,756	
8	Otter Trawl	OPEN	all	NE	lg	70,721	60,515	10,206	0.261	2,662	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	3,191	3,191				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	23	0	23	0.490	11	
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	376	376				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	300	300				P
24	Otter Trawl, Other	OPEN	all	NE	sm	29,353	29,353				P
25	Otter Trawl, Other	OPEN	all	NE	lg	9,500	9,500				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	8,098	6,444	1,654	0.583	964	
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	223	219	4	0.873	3	
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	0	0	0			
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	86	72	14	1.231	17	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	11	0	11	0.773	9	
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: BUTTERFISH (Peprilus triacanthus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	2	0	2	1.034	2	
37	Dredge, Scallop	AA	GEN	NE	all	0	0	0			
38	Dredge, Scallop	AA	LIM	MA	all	4	0	4	1.167	5	
39	Dredge, Scallop	AA	LIM	NE	all	119	0	119	0.245	29	
40	Dredge, Scallop	OPEN	GEN	MA	all	107	100	7	0.725	5	
41	Dredge, Scallop	OPEN	GEN	NE	all	0	0	0			
42	Dredge, Scallop	OPEN	LIM	MA	all	121	0	121	0.840	102	
43	Dredge, Scallop	OPEN	LIM	NE	all	31	0	31	0.461	14	
45	Trawl, Midwater Paired&Single	all	all	NE	sm	2	2	0			
47	Pots and Traps, Other	OPEN	all	NE	all	0	0				P
48	Pots and Traps, Fish	OPEN	all	MA	all	50	50	0			
49	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			
53	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0			
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			
56	Beam Trawl	OPEN	all	MA	sm	8,360	8,360				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	0	0	0			
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	0	0	0			
	Confidential fleets					141,195	5,551	135,644	0.271	36,774	
	Other minor fleets					375	375				
					TOTAL	10,488,798	7,303,927	3,184,871	0.149	473,893	

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.

Species: LONGFIN INSHORE SQUID (Doryteuthis [Amerigo] pealeii)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	0	0	0			
2	Longline, Bottom	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	0	0	0			
4	Hand Line	OPEN	all	NE	all	206	206	0			
5	Otter Trawl	OPEN	all	MA	sm	10,146,173	9,729,400	416,773	0.232	96,765	
6	Otter Trawl	OPEN	all	MA	lg	224,310	215,150	9,160	0.328	3,003	
7	Otter Trawl	OPEN	all	NE	sm	14,249,462	13,813,800	435,662	1.312	571,588	
8	Otter Trawl	OPEN	all	NE	lg	360,098	346,279	13,819	0.785	10,854	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	7,612	7,612				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	0	0	0			
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	233	233				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	66,259	66,259				P
24	Otter Trawl, Other	OPEN	all	NE	sm	760,861	760,861				P
25	Otter Trawl, Other	OPEN	all	NE	lg	4,700	4,700				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	2	2				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	0	0	0			
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	2	2	0			
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	0	0	0			
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	0	0	0			
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	0	0	0			
34	Purse Seine	OPEN	all	MA	all	1	1				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.

Species: LONGFIN INSHORE SQUID (Doryteuthis [Amerigo] pealeii)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	505	6	499	0.425	212	
37	Dredge, Scallop	AA	GEN	NE	all	2	0	2	0.992	2	
38	Dredge, Scallop	AA	LIM	MA	all	1,711	0	1,711	0.291	497	
39	Dredge, Scallop	AA	LIM	NE	all	1,453	0	1,453	0.301	437	
40	Dredge, Scallop	OPEN	GEN	MA	all	724	45	679	0.349	237	
41	Dredge, Scallop	OPEN	GEN	NE	all	102	0	102	0.765	78	
42	Dredge, Scallop	OPEN	LIM	MA	all	2,309	52	2,257	0.533	1,203	
43	Dredge, Scallop	OPEN	LIM	NE	all	411	5	406	0.452	184	
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0			
47	Pots and Traps, Other	OPEN	all	NE	all	0	0				P
48	Pots and Traps, Fish	OPEN	all	MA	all	8,280	8,280	0			
49	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			
53	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0			
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			
56	Beam Trawl	OPEN	all	MA	sm	12,520	12,520				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	0	0	0			
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	0	0	0			
	Confidential fleets					2,641,180	2,574,689	66,491	0.637	42,341	
	Other minor fleets					14,470	14,470				
					TOTAL	28,503,586	27,554,572	949,014	0.613	581,376	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: NORTHERN SHORTFIN SQUID (Illex illecebrosus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	0	0	0			
2	Longline, Bottom	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	0	0	0			
4	Hand Line	OPEN	all	NE	all	190	190	0			
5	Otter Trawl	OPEN	all	MA	sm	25,396,131	23,506,486	1,889,645	0.229	433,625	
6	Otter Trawl	OPEN	all	MA	lg	39,167	37,188	1,979	0.489	968	
7	Otter Trawl	OPEN	all	NE	sm	29,578,010	26,990,973	2,587,037	0.388	1,003,321	
8	Otter Trawl	OPEN	all	NE	lg	82,139	12,568	69,571	0.355	24,720	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	565,000	565,000				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	488	0	488	0.489	238	
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	6	6				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	0	0				P
24	Otter Trawl, Other	OPEN	all	NE	sm	6,468	6,468				P
25	Otter Trawl, Other	OPEN	all	NE	lg	0	0				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	0	0	0			
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	0	0	0			
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	2	0	2	0.850	1	
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	0	0	0			
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	0	0	0			
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: NORTHERN SHORTFIN SQUID (Illex illecebrosus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	69	0	69	0.625	43	
37	Dredge, Scallop	AA	GEN	NE	all	22	0	22	0.756	16	
38	Dredge, Scallop	AA	LIM	MA	all	704	0	704	0.471	332	
39	Dredge, Scallop	AA	LIM	NE	all	2,534	0	2,534	0.218	552	
40	Dredge, Scallop	OPEN	GEN	MA	all	28	0	28	0.683	19	
41	Dredge, Scallop	OPEN	GEN	NE	all	91	0	91	0.719	65	
42	Dredge, Scallop	OPEN	LIM	MA	all	4,550	0	4,550	0.549	2,498	
43	Dredge, Scallop	OPEN	LIM	NE	all	9,484	0	9,484	0.242	2,290	
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0			
47	Pots and Traps, Other	OPEN	all	NE	all	0	0				P
48	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			
49	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			
53	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0			
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			
56	Beam Trawl	OPEN	all	MA	sm	365,000	365,000				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	0	0	0			
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	0	0	0			
	Confidential fleets					981,200	536,425	444,775	0.244	108,641	
	Other minor fleets					0	0				
					TOTAL	57,031,282	52,020,304	5,010,978	0.219	1,098,686	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: BLUELINE TILEFISH (Caulolatilus microps)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	12,253	11,939	314	2.222	698	
2	Longline, Bottom	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	20,234	20,234	0			
4	Hand Line	OPEN	all	NE	all	0	0	0			
5	Otter Trawl	OPEN	all	MA	sm	2,825	1,434	1,391	0.339	471	
6	Otter Trawl	OPEN	all	MA	lg	4,216	1,920	2,296	1.114	2,558	
7	Otter Trawl	OPEN	all	NE	sm	991	458	533	0.699	373	
8	Otter Trawl	OPEN	all	NE	lg	0	0	0			
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	0	0	0			
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	0	0				P
24	Otter Trawl, Other	OPEN	all	NE	sm	25	25				P
25	Otter Trawl, Other	OPEN	all	NE	lg	0	0				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	33	6	27	0.747	20	
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	0	0	0			
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	0	0	0			
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	0	0	0			
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	190	0	190	0.788	150	
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.

Species: BLUELINE TILEFISH (Caulolatilus microps)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	0	0	0			
37	Dredge, Scallop	AA	GEN	NE	all	0	0	0			
38	Dredge, Scallop	AA	LIM	MA	all	0	0	0			
39	Dredge, Scallop	AA	LIM	NE	all	0	0	0			
40	Dredge, Scallop	OPEN	GEN	MA	all	0	0	0			
41	Dredge, Scallop	OPEN	GEN	NE	all	0	0	0			
42	Dredge, Scallop	OPEN	LIM	MA	all	0	0	0			
43	Dredge, Scallop	OPEN	LIM	NE	all	0	0	0			
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0			
47	Pots and Traps, Other	OPEN	all	NE	all	0	0				P
48	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			
49	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	339	59	280	1.361	381	
53	Pots and Traps, Lobster	OPEN	all	NE	all	2	2	0			
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			
56	Beam Trawl	OPEN	all	MA	sm	0	0				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	0	0	0			
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	0	0	0			
	Confidential fleets					2,010	215	1,795	0.691	1,241	
	Other minor fleets					0	0				
					TOTAL	43,118	36,292	6,826	0.442	3,016	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: GOLDEN TILEFISH (Lopholatilus chamaeleonticeps)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	1,415,812	1,412,729	3,083	0.633	1,952	
2	Longline, Bottom	OPEN	all	NE	all	30	30	0			
3	Hand Line	OPEN	all	MA	all	2,265	2,265	0			
4	Hand Line	OPEN	all	NE	all	428	428	0			
5	Otter Trawl	OPEN	all	MA	sm	6,621	4,744	1,877	0.405	760	
6	Otter Trawl	OPEN	all	MA	lg	307	235	72	1.215	87	
7	Otter Trawl	OPEN	all	NE	sm	9,673	5,174	4,499	0.299	1,346	
8	Otter Trawl	OPEN	all	NE	lg	75	75	0			
9	Otter Trawl, Scallop	AA	GEN	MA	sm	0	0				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	0	0	0			P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	0	0	0			
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	0	0				P
24	Otter Trawl, Other	OPEN	all	NE	sm	33	33				P
25	Otter Trawl, Other	OPEN	all	NE	lg	5	5				P
26	Floating Trap	OPEN	all	MA	all	0	0				P
27	Floating Trap	OPEN	all	NE	all	0	0				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	0	0	0			
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	0	0	0			
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	0	0	0			
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	0	0	0			
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	2,059	819	1,240	0.381	473	
34	Purse Seine	OPEN	all	MA	all	0	0				P
35	Purse Seine	OPEN	all	NE	all	0	0	0			

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 25 individual species that compose the 14 species groups, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: GOLDEN TILEFISH (Lopholatilus chamaeleonticeps)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	0	0	0			
37	Dredge, Scallop	AA	GEN	NE	all	0	0	0			
38	Dredge, Scallop	AA	LIM	MA	all	0	0	0			
39	Dredge, Scallop	AA	LIM	NE	all	0	0	0			
40	Dredge, Scallop	OPEN	GEN	MA	all	0	0	0			
41	Dredge, Scallop	OPEN	GEN	NE	all	0	0	0			
42	Dredge, Scallop	OPEN	LIM	MA	all	0	0	0			
43	Dredge, Scallop	OPEN	LIM	NE	all	0	0	0			
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0			
47	Pots and Traps, Other	OPEN	all	NE	all	0	0				P
48	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			
49	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0			
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			
52	Pots and Traps, Lobster	OPEN	all	MA	all	123	123	0			
53	Pots and Traps, Lobster	OPEN	all	NE	all	18	18	0			
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0			
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			
56	Beam Trawl	OPEN	all	MA	sm	0	0				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	0	0	0			
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	0	0	0			
	Confidential fleets					381	208	173	0.768	133	
	Other minor fleets					0	0				
					TOTAL	1,437,830	1,426,886	10,944	0.232	2,540	

See text for fleet abbreviations.

Table 5C. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 Standardized Bycatch Reporting Methodology (SBRM) species groups combined, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CV were not used in the annual sample size analysis. Blank CV indicates either no discards or discards equal 0. "P" indicates fleets with "pilot" designation.

Species: 14 SBRM SPECIES GROUPS COMBINED

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline, Bottom	OPEN	all	MA	all	1,610,853	1,505,392	105,462	0.435	45,884	
2	Longline, Bottom	OPEN	all	NE	all	4,413,204	4,116,046	297,158	0.141	41,798	
3	Hand Line	OPEN	all	MA	all	264,162	237,011	27,151	0.615	16,696	
4	Hand Line	OPEN	all	NE	all	1,211,462	1,134,573	76,889	0.176	13,561	
5	Otter Trawl	OPEN	all	MA	sm	59,445,317	43,672,477	15,772,840	0.079	1,244,755	
6	Otter Trawl	OPEN	all	MA	lg	17,935,913	11,615,330	6,320,584	0.111	700,717	
7	Otter Trawl	OPEN	all	NE	sm	79,303,628	61,970,392	17,333,236	0.114	1,975,343	
8	Otter Trawl	OPEN	all	NE	lg	77,016,194	56,839,965	20,176,230	0.164	3,318,747	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	40,317	40,317				P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	589,872	492,781	97,091	0.000	0	P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	25,134	25,134				P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	693,753	693,753				P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	70,769	70,769				P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	3,951,168	3,105,873	845,295	0.158	133,945	
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	19,048	19,048				P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	69,357	69,357				P
24	Otter Trawl, Other	OPEN	all	NE	sm	1,615,065	1,615,065				P
25	Otter Trawl, Other	OPEN	all	NE	lg	123,200	123,200				P
26	Floating Trap	OPEN	all	MA	all	794	794				P
27	Floating Trap	OPEN	all	NE	all	4,384	4,384				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	3,045,457	2,944,604	100,853	0.150	15,124	
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	4,154,481	3,989,963	164,518	0.193	31,678	
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	5,697,264	5,363,696	333,568	0.144	48,094	
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0			
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	6,576,499	5,622,718	953,781	0.226	215,768	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	23,378,147	20,651,805	2,726,341	0.159	432,830	
34	Purse Seine	OPEN	all	MA	all	11	11				P
35	Purse Seine	OPEN	all	NE	all	37,651,867	37,651,756	111	0.780	87	

See text for fleet abbreviations.

Table 5C, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 Standardized Bycatch Reporting Methodology (SBRM) species groups combined, by fleet, based on July 2018 through June 2019 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CV were not used in the annual sample size analysis. Blank CV indicates either no discards or discards equal 0. "P" indicates fleets with "pilot" designation.
Species: 14 SBRM SPECIES GROUPS COMBINED

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
36	Dredge, Scallop	AA	GEN	MA	all	7,409,937	6,621,185	788,752	0.214	169,159	
37	Dredge, Scallop	AA	GEN	NE	all	6,940,209	6,342,177	598,032	0.120	71,565	
38	Dredge, Scallop	AA	LIM	MA	all	78,090,677	74,745,881	3,344,796	0.151	506,096	
39	Dredge, Scallop	AA	LIM	NE	all	301,575,940	262,552,802	39,023,138	0.063	2,452,145	
40	Dredge, Scallop	OPEN	GEN	MA	all	7,681,976	5,875,383	1,806,593	0.096	173,501	
41	Dredge, Scallop	OPEN	GEN	NE	all	8,026,078	7,260,523	765,555	0.188	144,299	
42	Dredge, Scallop	OPEN	LIM	MA	all	30,697,261	27,736,180	2,961,081	0.153	452,439	
43	Dredge, Scallop	OPEN	LIM	NE	all	116,123,673	103,120,758	13,002,915	0.109	1,419,056	
45	Trawl, Midwater Paired&Single	all	all	NE	sm	40,472,032	40,356,096	115,936	0.897	104,013	
47	Pots and Traps, Other	OPEN	all	NE	all	9,625	9,625				P
48	Pots and Traps, Fish	OPEN	all	MA	all	542,873	346,797	196,076	0.270	52,870	
49	Pots and Traps, Fish	OPEN	all	NE	all	431,411	264,450	166,961	0.286	47,812	
50	Pots and Traps, Conch	OPEN	all	MA	all	4,263	3,865	398	0.385	153	
51	Pots and Traps, Conch	OPEN	all	NE	all	463,896	462,527	1,369	1.034	1,415	
52	Pots and Traps, Lobster	OPEN	all	MA	all	137,128	128,598	8,530	0.342	2,917	
53	Pots and Traps, Lobster	OPEN	all	NE	all	722,648	182,463	540,185	0.802	433,212	
54	Pots and Traps, Crab	OPEN	all	MA	all	125,281	89,060	36,221	0.120	4,353	
55	Pots and Traps, Crab	OPEN	all	NE	all	4,815,929	3,812,063	1,003,866	0.230	230,568	
56	Beam Trawl	OPEN	all	MA	sm	422,013	422,013				P
58	Dredge, Other	OPEN	all	MA	all	0	0				P
60	Dredge, Urchin	OPEN	all	NE	all	0	0				P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	249,431,129	246,539,038	2,892,091	0.342	988,060	
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	190,170,891	187,444,910	2,725,981	0.210	571,599	
	Confidential fleets					13,071,289	11,959,924	1,111,365	0.147	163,868	
	Other minor fleets					516,243	516,243				
					TOTAL	1,386,789,721	1,250,368,773	136,420,948	0.038	5,232,114	

See text for fleet abbreviations.

Table 6A. The number of trips needed to achieve a 30% coefficient of variation of the discard estimate for each of the 14 fish and invertebrate species groups, the number of pilot trips, the number of minimum pilot trips, and the maximum number of trips needed for each fleet (2020 Trips Needed) for fish and invertebrate species groups based on July 2018 through June 2019 data. Bold red font indicates basis for fleet trips. "P" indicates fleets with "pilot" designation. Species group abbreviations are given in Table 1.

Row	Fleet Gear Type	Access Area	Trip	Region	Mesh Size	BLUE	HERR	SAL	RCRAB	SCAL	SBM	MONK	GFL	GFS	SKATE	DOG	FSB	SCOQ	TILE	Pilot Trips	Min Pilot Trips	2020 Trips Needed	Pilot
1	Longline, Bottom	OPEN	all	MA	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	**12**	12	
2	Longline, Bottom	OPEN	all	NE	all	0	0	0	0	0	0	0	0	0	0	**16**	0	0	0	21	12	16	
3	Hand Line	OPEN	all	MA	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	63	**12**	12	
4	Hand Line	OPEN	all	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	46	**12**	12	
5	Otter Trawl	OPEN	all	MA	sm	0	0	0	0	0	291	265	204	**296**	202	210	182	0	0	77	12	296	
6	Otter Trawl	OPEN	all	MA	lg	0	0	0	0	0	0	112	0	0	56	**148**	65	0	0	55	12	148	
7	Otter Trawl	OPEN	all	NE	sm	0	0	0	0	0	**389**	0	113	126	195	297	219	0	0	79	12	389	
8	Otter Trawl	OPEN	all	NE	lg	0	0	0	0	0	0	58	55	60	**313**	161	177	0	0	97	12	313	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	3	3	3	3	3	3	3	3	3	3	3	3	3	3	**3**	3	3	P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	6	6	6	6	6	6	6	6	6	6	6	6	6	6	**6**	6	6	P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	3	3	3	3	3	3	3	3	3	3	3	3	3	3	**3**	3	3	P
12	Otter Trawl, Scallop	OPEN	GEN	NE	lg	3	3	3	3	3	3	3	3	3	3	3	3	3	3	**3**	3	3	P
13	Otter Trawl, Twin	OPEN	all	MA	sm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	**12**	12	
14	Otter Trawl, Twin	OPEN	all	MA	lg	6	6	6	6	6	6	6	6	6	6	6	6	6	6	**6**	6	6	P
15	Otter Trawl, Twin	OPEN	all	NE	sm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	**3**	3	
16	Otter Trawl, Ruhle	OPEN	all	MA	sm	3	3	3	3	3	3	3	3	3	3	3	3	3	3	**3**	3	3	P
17	Otter Trawl, Ruhle	OPEN	all	MA	lg	3	3	3	3	3	3	3	3	3	3	3	3	3	3	**3**	3	3	P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	3	3	3	3	3	3	3	3	3	3	3	3	3	3	**3**	3	3	P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	3	3	3	3	3	3	3	3	3	3	3	3	3	3	**3**	3	3	P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	0	0	0	0	0	0	0	2	0	0	0	0	0	0	12	**12**	12	
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	11	11	11	11	11	11	11	11	11	11	11	11	11	11	**11**	9	11	P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	6	6	6	6	6	6	6	6	6	6	6	6	6	6	**6**	6	6	P
23	Otter Trawl, Other	OPEN	all	MA	sm	6	6	6	6	6	6	6	6	6	6	6	6	6	6	**6**	6	6	P
24	Otter Trawl, Other	OPEN	all	NE	sm	12	12	12	12	12	12	12	12	12	12	12	12	12	12	**12**	12	12	P
25	Otter Trawl, Other	OPEN	all	NE	lg	9	9	9	9	9	9	9	9	9	9	9	9	9	9	**9**	9	9	P
26	Floating Trap	OPEN	all	MA	all	6	6	6	6	6	6	6	6	6	6	6	6	6	6	**6**	6	6	P
27	Floating Trap	OPEN	all	NE	all	12	12	12	12	12	12	12	12	12	12	12	12	12	12	**12**	12	12	P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38	**12**	12	
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	0	0	0	0	0	0	0	0	0	0	**141**	0	0	0	33	12	141	
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	**12**	12	
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	**3**	3	
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	0	0	0	0	0	0	0	0	0	0	**174**	0	0	0	41	12	174	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	0	0	0	0	0	0	48	0	0	101	**148**	0	0	0	64	12	148	
34	Purse Seine	OPEN	all	MA	all	6	6	6	6	6	6	6	6	6	6	6	6	6	6	**6**	6	6	P
35	Purse Seine	OPEN	all	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	**9**	9	
36	Dredge, Scallop	AA	GEN	MA	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	**9**	9	
37	Dredge, Scallop	AA	GEN	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29	**12**	12	
38	Dredge, Scallop	AA	LIM	MA	all	0	0	0	0	0	0	**14**	0	0	11	0	0	0	0	16	12	14	
39	Dredge, Scallop	AA	LIM	NE	all	0	0	0	0	31	0	33	53	41	23	**71**	0	0	0	44	12	71	
40	Dredge, Scallop	OPEN	GEN	MA	all	0	0	0	0	0	0	0	0	0	7	0	0	0	0	23	**12**	12	
41	Dredge, Scallop	OPEN	GEN	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	62	**12**	12	
42	Dredge, Scallop	OPEN	LIM	MA	all	0	0	0	0	0	0	**18**	0	0	6	0	0	0	0	12	12	18	
43	Dredge, Scallop	OPEN	LIM	NE	all	0	0	0	0	0	0	**50**	0	0	24	0	0	0	0	15	12	50	

See text for fleet abbreviations.

Table 6A, continued. The number of trips needed to achieve a 30% coefficient of variation of the discard estimate for each of the 14 fish and invertebrate species groups, the number of pilot trips, the number of minimum pilot trips, and the maximum number of trips needed for each fleet (2020 Trips Needed) for fish and invertebrate species groups based on July 2018 through June 2019 data. Bold red font indicates basis for fleet trips. "P" indicates fleets with "pilot" designation. Species group abbreviations are given in Table 1.

Row	Fleet Gear Type	Access Area	Trip	Region	Mesh Size	BLUE	HERR	SAL	RCRAB	SCAL	SBM	MONK	GFL	GFS	SKATE	DOG	FSB	SCOQ	TILE	Pilot Trips	Min Pilot Trips	2020 Trips Needed	Pilot
44	Danish Seine	OPEN	all	MA	all	3	3	3	3	3	3	3	3	3	3	3	3	3	3	**3**	3	3	P
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	**9**	9	
46	Trawl, Midwater Paired&Single	OPEN	all	MA	sm	3	3	3	3	3	3	3	3	3	3	3	3	3	3	**3**	3	3	P
47	Pots and Traps, Other	OPEN	all	NE	all	12	12	12	12	12	12	12	12	12	12	12	12	12	12	**12**	12	12	P
48	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	**12**	12	
49	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	**12**	12	
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	**12**	12	
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	**12**	12	
52	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	**12**	12	
53	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0	0	0	0	0	0	0	0	0	**196**	0	0	320	12	196	
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	**6**	6	
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0	7	0	0	0	0	0	0	0	0	0	0	12	**12**	12	
56	Beam Trawl	OPEN	all	MA	sm	6	6	6	6	6	6	6	6	6	6	6	6	6	6	**6**	6	6	P
57	Beam Trawl	OPEN	all	NE	lg	9	9	9	9	9	9	9	9	9	9	9	9	9	9	**9**	9	9	P
58	Dredge, Other	OPEN	all	MA	all	9	9	9	9	9	9	9	9	9	9	9	9	9	9	**9**	9	9	P
59	Dredge, Other	OPEN	all	NE	all	3	3	3	3	3	3	3	3	3	3	3	3	3	3	**3**	3	3	P
60	Dredge, Urchin	OPEN	all	NE	all	3	3	3	3	3	3	3	3	3	3	3	3	3	3	**3**	3	3	P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	0	0	0	0	0	0	**17**	0	0	0	0	0	0	0	39	12	17	
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	0	0	0	0	0	0	28	0	0	29	**293**	0	0	0	35	12	293	
					Totals	**149**	**149**	**149**	**156**	**180**	**829**	**792**	**576**	**672**	**1,116**	**1,808**	**988**	**149**	**149**	**1,608**	**558**	**2,664**	

See text for fleet abbreviations.

Table 6B. The number of sea days needed to achieve a 30% coefficient of variation of the discard estimate for each of the 14 fish and invertebrate species groups, the number of pilot sea days, the number of minimum pilot sea days, and the maximum number of sea days needed for each fleet (2020 Sea Days Needed) for fish and invertebrate species groups based on July 2018 through June 2019 data. Bold red font indicates basis for fleet sea days. "P" indicates fleets with "pilot" designation. Species group abbreviations are given in Table 1.

Row	Fleet Gear Type	Access Area	Trip	Region	Mesh Size	BLUE	HERR	SAL	RCRAB	SCAL	SBM	MONK	GFL	GFS	SKATE	DOG	FSB	SCOQ	TILE	Pilot Days	Min Pilot Days	2020 Sea Days Needed	Pilot
1	Longline, Bottom	OPEN	all	MA	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	84	**84**	84	
2	Longline, Bottom	OPEN	all	NE	all	0	0	0	0	0	0	0	0	0	0	**17**	0	0	0	23	15	17	
3	Hand Line	OPEN	all	MA	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	67	**14**	14	
4	Hand Line	OPEN	all	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	**13**	13	
5	Otter Trawl	OPEN	all	MA	sm	0	0	0	0	0	633	577	443	**643**	440	457	396	0	0	167	29	643	
6	Otter Trawl	OPEN	all	MA	lg	0	0	0	0	0	0	275	0	0	137	**364**	161	0	0	136	31	364	
7	Otter Trawl	OPEN	all	NE	sm	0	0	0	0	0	**988**	0	288	319	494	755	557	0	0	200	35	988	
8	Otter Trawl	OPEN	all	NE	lg	0	0	0	0	0	0	157	147	161	**840**	433	474	0	0	261	33	840	
9	Otter Trawl, Scallop	AA	GEN	MA	sm	6	6	6	6	6	6	6	6	6	6	6	6	6	6	**6**	6	6	P
10	Otter Trawl, Scallop	AA	GEN	MA	lg	13	13	13	13	13	13	13	13	13	13	13	13	13	13	**13**	13	13	P
11	Otter Trawl, Scallop	OPEN	GEN	MA	lg	5	5	5	5	5	5	5	5	5	5	5	5	5	5	**5**	5	5	P
12	Otter Trawl, Scallop	OPEN	GEN	NE	lg	8	8	8	8	8	8	8	8	8	8	8	8	8	8	**8**	8	8	P
13	Otter Trawl, Twin	OPEN	all	MA	sm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	51	**51**	51	
14	Otter Trawl, Twin	OPEN	all	MA	lg	6	6	6	6	6	6	6	6	6	6	6	6	6	6	**6**	6	6	P
15	Otter Trawl, Twin	OPEN	all	NE	sm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	**22**	22	
16	Otter Trawl, Ruhle	OPEN	all	MA	sm	23	23	23	23	23	23	23	23	23	23	23	23	23	23	**23**	23	23	P
17	Otter Trawl, Ruhle	OPEN	all	MA	lg	13	13	13	13	13	13	13	13	13	13	13	13	13	13	**13**	13	13	P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	12	12	12	12	12	12	12	12	12	12	12	12	12	12	**12**	12	12	P
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	9	9	9	9	9	9	9	9	9	9	9	9	9	9	**9**	9	9	P
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	0	0	0	0	0	0	0	15	0	0	0	0	0	0	102	**102**	102	
21	Otter Trawl, Shrimp	OPEN	all	MA	sm	64	64	64	64	64	64	64	64	64	64	64	64	64	64	**64**	51	64	P
22	Otter Trawl, Shrimp	OPEN	all	NE	sm	7	7	7	7	7	7	7	7	7	7	7	7	7	7	**7**	7	7	P
23	Otter Trawl, Other	OPEN	all	MA	sm	29	29	29	29	29	29	29	29	29	29	29	29	29	29	**29**	29	29	P
24	Otter Trawl, Other	OPEN	all	NE	sm	64	64	64	64	64	64	64	64	64	64	64	64	64	64	**64**	64	64	P
25	Otter Trawl, Other	OPEN	all	NE	lg	62	62	62	62	62	62	62	62	62	62	62	62	62	62	**62**	62	62	P
26	Floating Trap	OPEN	all	MA	all	6	6	6	6	6	6	6	6	6	6	6	6	6	6	**6**	6	6	P
27	Floating Trap	OPEN	all	NE	all	21	21	21	21	21	21	21	21	21	21	21	21	21	21	**21**	21	21	P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	**13**	13	
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	0	0	0	0	0	0	0	0	0	0	**149**	0	0	0	35	13	149	
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	**14**	14	
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	**3**	3	
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	0	0	0	0	0	0	0	0	0	0	**225**	0	0	0	55	19	225	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	0	0	0	0	0	0	68	0	0	142	**209**	0	0	0	91	20	209	
34	Purse Seine	OPEN	all	MA	all	6	6	6	6	6	6	6	6	6	6	6	6	6	6	**6**	6	6	P
35	Purse Seine	OPEN	all	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	**14**	14	
36	Dredge, Scallop	AA	GEN	MA	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44	**15**	15	
37	Dredge, Scallop	AA	GEN	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	59	**26**	26	
38	Dredge, Scallop	AA	LIM	MA	all	0	0	0	0	0	0	**91**	0	0	76	0	0	0	0	102	76	91	
39	Dredge, Scallop	AA	LIM	NE	all	0	0	0	0	227	0	238	389	299	168	**520**	0	0	0	323	87	520	
40	Dredge, Scallop	OPEN	GEN	MA	all	0	0	0	0	0	0	0	0	0	12	0	0	0	0	38	**20**	20	
41	Dredge, Scallop	OPEN	GEN	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	82	**16**	16	
42	Dredge, Scallop	OPEN	LIM	MA	all	0	0	0	0	0	0	**140**	0	0	48	0	0	0	0	93	93	140	
43	Dredge, Scallop	OPEN	LIM	NE	all	0	0	0	0	0	0	**454**	0	0	218	0	0	0	0	137	107	454	

See text for fleet abbreviations.

Table 6B, continued. The number of sea days needed to achieve a 30% coefficient of variation of the discard estimate for each of the 14 fish and invertebrate species groups, the number of pilot sea days, the number of minimum pilot sea days, and the maximum number of sea days needed for each fleet (2020 Sea Days Needed) for fish and invertebrate species groups based on July 2018 through June 2019 data. Bold red font indicates basis for fleet sea days. "P" indicates fleets with "pilot" designation. Species group abbreviations are given in Table 1.

Row	Fleet Gear Type	Access Area	Trip	Region	Mesh Size	BLUE	HERR	SAL	RCRAB	SCAL	SBM	MONK	GFL	GFS	SKATE	DOG	FSB	SCOQ	TILE	Pilot Days	Min Pilot Days	2020 Sea Days Needed	Pilot
44	Danish Seine	OPEN	all	MA	all	3	3	3	3	3	3	3	3	3	3	3	3	3	3	**3**	3	3	P
45	Trawl, Midwater Paired&Single	all	all	NE	sm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	**31**	31	
46	Trawl, Midwater Paired&Single	OPEN	all	MA	sm	13	13	13	13	13	13	13	13	13	13	13	13	13	13	**13**	13	13	P
47	Pots and Traps, Other	OPEN	all	NE	all	12	12	12	12	12	12	12	12	12	12	12	12	12	12	**12**	12	12	P
48	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	**13**	13	
49	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	**15**	15	
50	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	**13**	13	
51	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	**12**	12	
52	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35	**20**	20	
53	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0	0	0	0	0	0	0	0	0	**255**	0	0	437	17	255	
54	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	**22**	22	
55	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0	46	0	0	0	0	0	0	0	0	0	0	79	**79**	79	
56	Beam Trawl	OPEN	all	MA	sm	18	18	18	18	18	18	18	18	18	18	18	18	18	18	**18**	18	18	P
57	Beam Trawl	OPEN	all	NE	lg	18	18	18	18	18	18	18	18	18	18	18	18	18	18	**18**	18	18	P
58	Dredge, Other	OPEN	all	MA	all	12	12	12	12	12	12	12	12	12	12	12	12	12	12	**12**	12	12	P
59	Dredge, Other	OPEN	all	NE	all	3	3	3	3	3	3	3	3	3	3	3	3	3	3	**3**	3	3	P
60	Dredge, Urchin	OPEN	all	NE	all	3	3	3	3	3	3	3	3	3	3	3	3	3	3	**3**	3	3	P
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	0	0	0	0	0	0	**33**	0	0	0	0	0	0	0	73	23	33	
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	0	0	0	0	0	0	42	0	0	42	**428**	0	0	0	51	18	428	
					Totals	**436**	**436**	**436**	**482**	**663**	**2,057**	**2,511**	**1,718**	**1,858**	**3,053**	**3,993**	**2,279**	**436**	**436**	**3,575**	**1,651**	**6,404**	

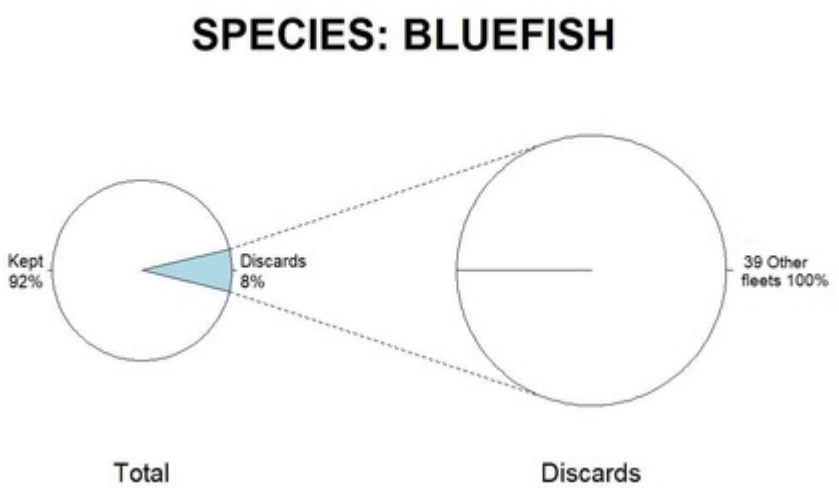
See text for fleet abbreviations.

Table 7. Number of sea days, trips, and percentage of trips (based upon previous industry activity) needed to achieve a 30% coefficient of variation of the discard estimate, by fleet and species group, based on July 2018 through June 2019 data. See Table 1 for species group abbreviations. MPC = Minimum Pilot Coverage.

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Species Group	Sea Days	Trips	% of Trips
2	Longline, Bottom	OPEN	all	NE	all	DOG	17	16	2
5	Otter Trawl	OPEN	all	MA	sm	GFS	643	296	8
						SBM	633	291	8
						MONK	577	265	7
						DOG	457	210	6
						GFL	443	204	5
						SKATE	440	202	5
						FSB	396	182	5
6	Otter Trawl	OPEN	all	MA	lg	DOG	364	148	5
						MONK	275	112	4
						FSB	161	65	2
						SKATE	137	56	2
7	Otter Trawl	OPEN	all	NE	sm	SBM	988	389	10
						DOG	755	297	8
						FSB	557	219	6
						SKATE	494	195	5
						GFS	319	126	3
						GFL	288	113	3
8	Otter Trawl	OPEN	all	NE	lg	SKATE	840	313	6
						FSB	474	177	4
						DOG	433	161	3
						GFS	161	60	1
						MONK	157	58	1
						GFL	147	55	1
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	MPC	102	12	21
						GFL	15	2	3
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	DOG	149	141	9
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	DOG	225	174	9
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	DOG	209	148	5
						SKATE	142	101	3
						MONK	68	48	2
38	Dredge, Scallop	AA	LIM	MA	all	MONK	91	14	2
						SKATE	76	11	2
39	Dredge, Scallop	AA	LIM	NE	all	DOG	520	71	3
						GFL	389	53	2
						GFS	299	41	2
						MONK	238	33	2
						SCAL	227	31	1
						SKATE	168	23	1
40	Dredge, Scallop	OPEN	GEN	MA	all	MPC	20	12	1
						SKATE	12	7	1
42	Dredge, Scallop	OPEN	LIM	MA	all	MONK	140	18	7
						SKATE	48	6	2

Table 7, continued. Number of sea days, trips, and percentage of trips (based upon previous industry activity) needed to achieve a 30% coefficient of variation of the discard estimate, by fleet and species group, based on July 2018 through June 2019 data. See Table 1 for species group abbreviations. MPC = Minimum Pilot Coverage.

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Species Group	Sea Days	Trips	% of Trips
43	Dredge, Scallop	OPEN	LIM	NE	all	MONK	454	50	8
						SKATE	218	24	4
53	Pots and Traps, Lobster	OPEN	all	NE	all	FSB	255	196	1
55	Pots and Traps, Crab	OPEN	all	NE	all	MPC	79	12	11
						RCRAB	46	7	7
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	MONK	33	17	1
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	DOG	428	293	17
						SKATE	42	29	2
						MONK	42	28	2



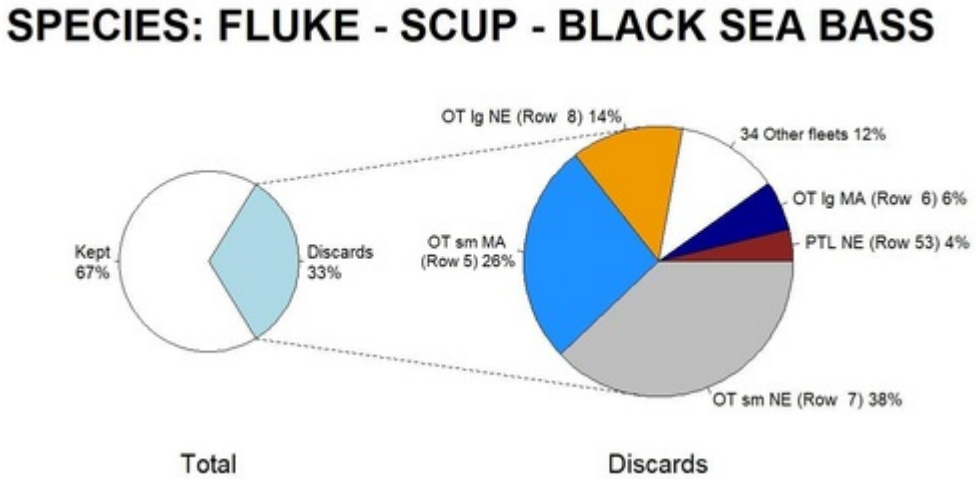
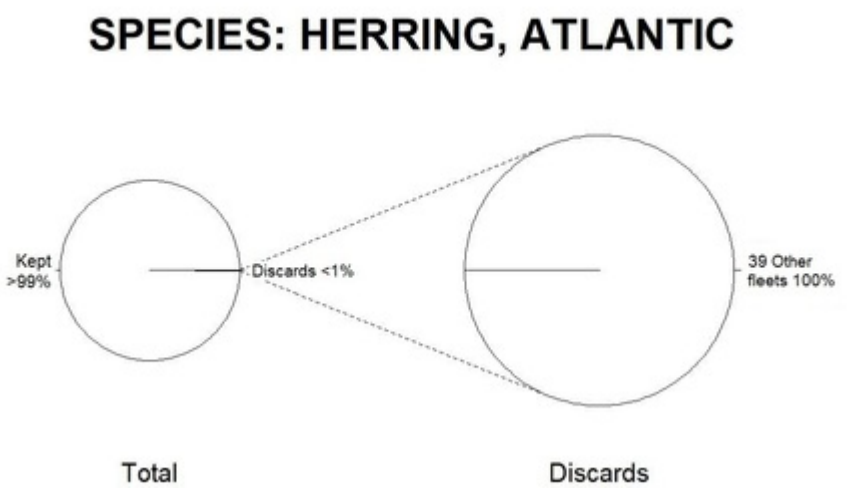


Figure 1A. Percentage of Vessel Trip Report landings (kept) and estimated discards (Total, left pie) and the percentage of estimated discards by fleet (Discards, right pie) for each of the 14 species groups (except Atlantic salmon [Salmo salar]), based on July 2018 through June 2019 data. Because percentages have been rounded, they may not always sum to 100%. See Appendix Table 4 for fleet abbreviations.
Top: BLUEFISH *(Pomatomus saltatrix)*
Bottom: FLUKE *(Paralichthys dentatus)* - SCUP *(Stenotomus chrysops)* - BLACK SEA BASS *(Centropristis striata)*



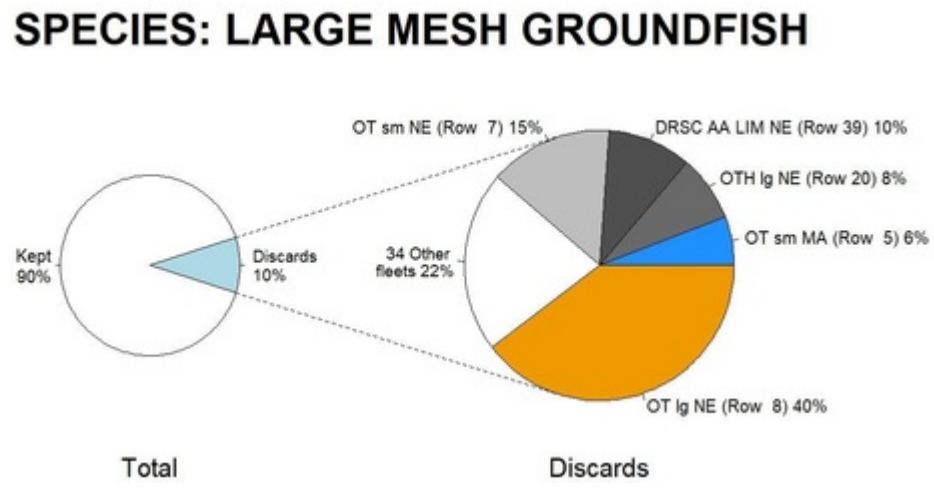


Figure 1A, continued. Percentage of Vessel Trip Report landings (kept) and estimated discards (Total, left pie) and the percentage of estimated discards by fleet (Discards, right pie) for each of the 14 species groups (except Atlantic salmon *[Salmo salar]*), based on July 2018 through June 2019 data. Because percentages have been rounded, they may not always sum to 100%. See Appendix Table 4 for fleet abbreviations.
Top: HERRING, ATLANTIC *(Clupea harengus)*
Bottom: LARGE MESH GROUNDFISH

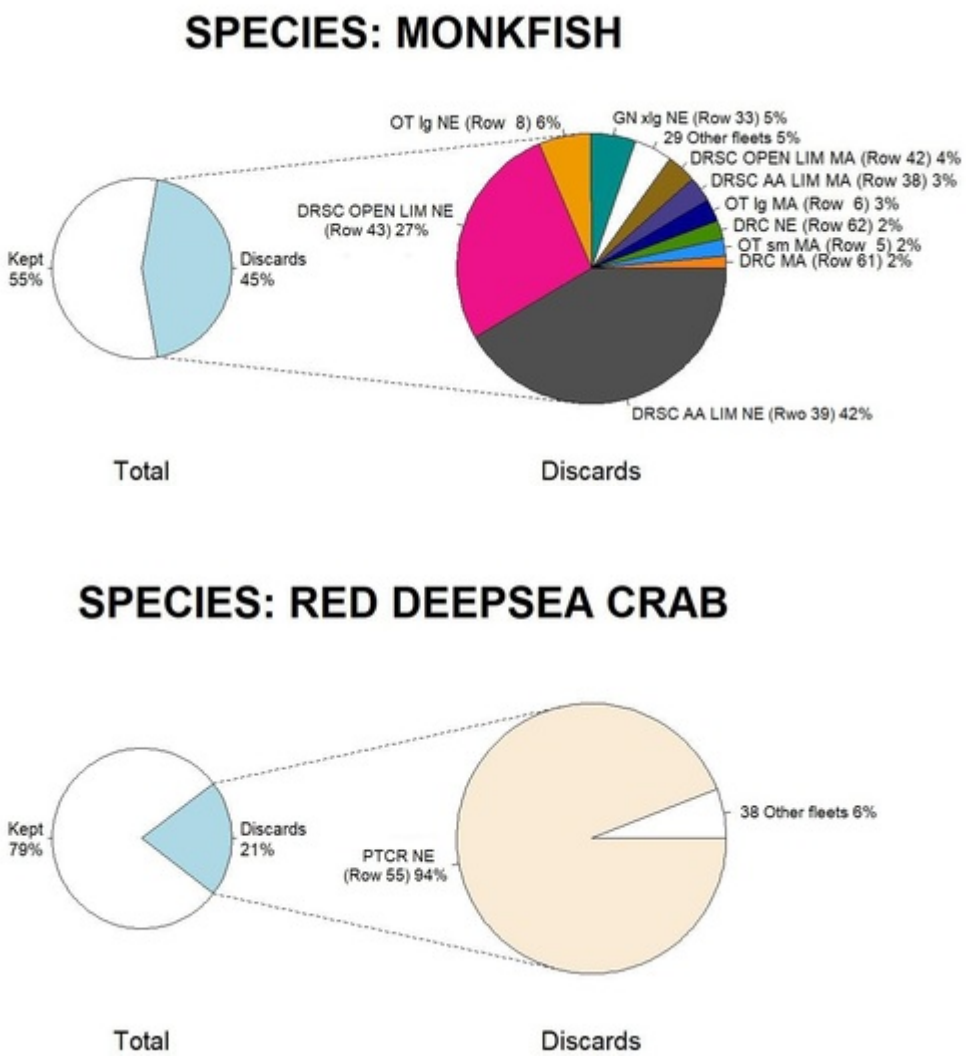
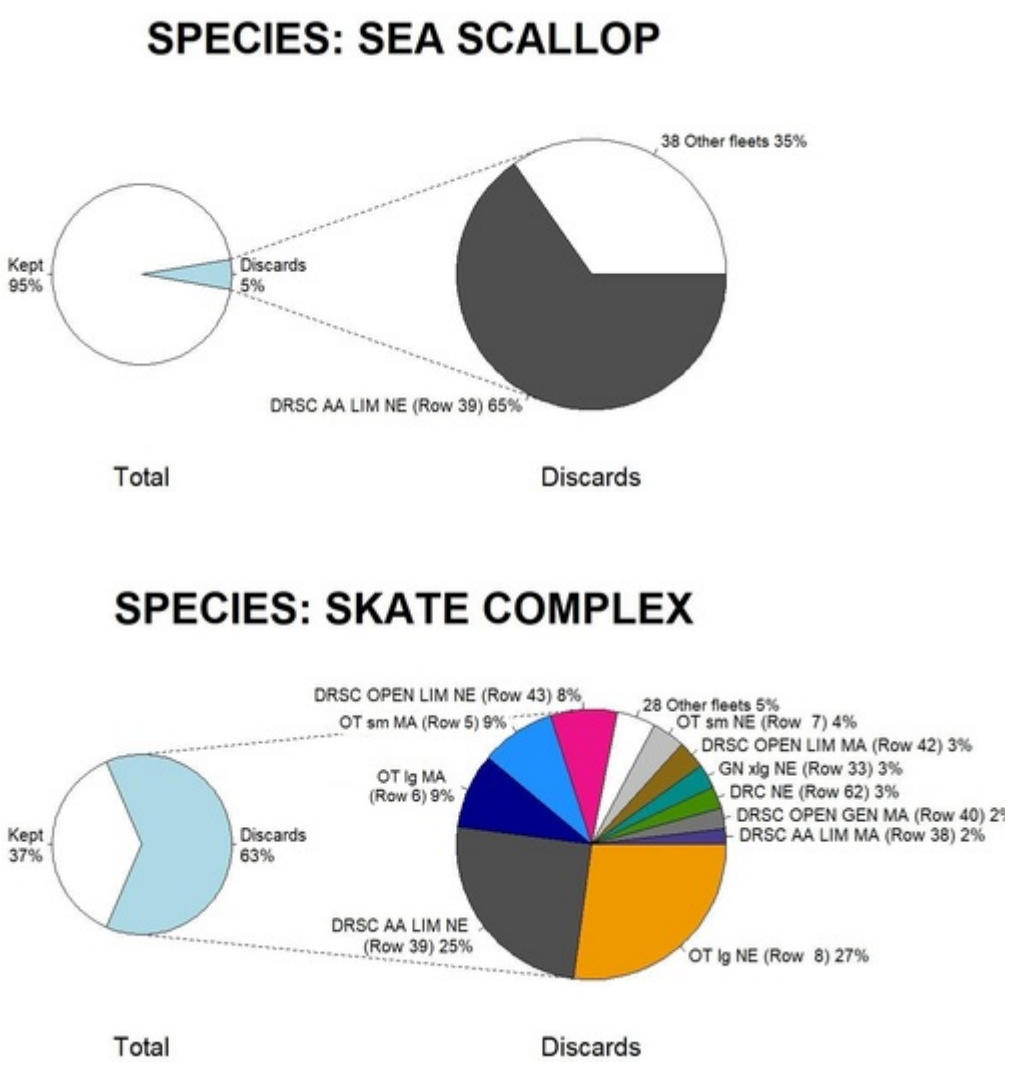


Figure 1A, continued. Percentage of Vessel Trip Report landings (kept) and estimated discards (Total, left pie) and the percentage of estimated discards by fleet (Discards, right pie) for each of the 14 species groups (except Atlantic salmon *[Salmo salar]*), based on July 2018 through June 2019 data. Because percentages have been rounded, they may not always sum to 100%. See Appendix Table 4 for fleet abbreviations.
Top: MONKFISH *(Lophius americanus)*
Bottom: RED DEEPSEA CRAB *(Chaceon quinquedens)*



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Top: SEA SCALLOP *(Placopecten magellanicus)*
Bottom: SKATE COMPLEX (Rajidae)

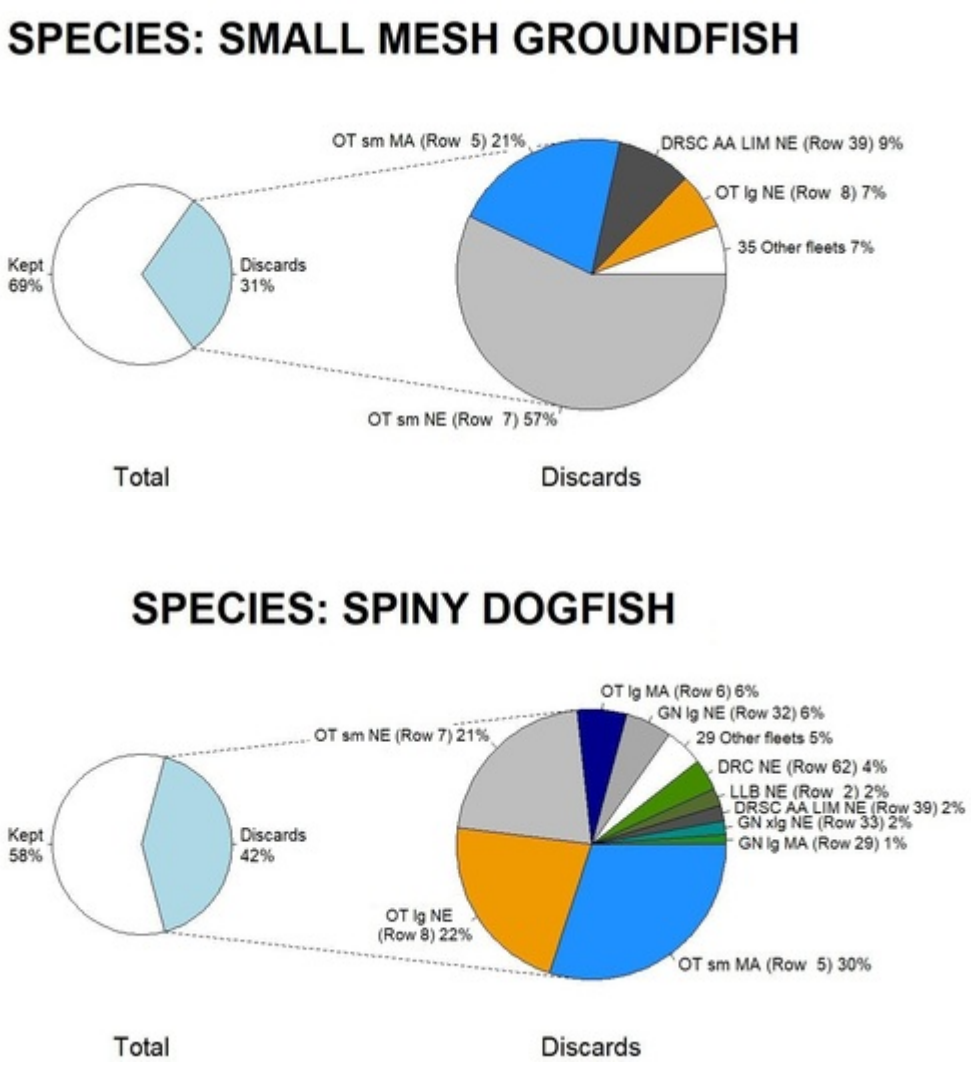
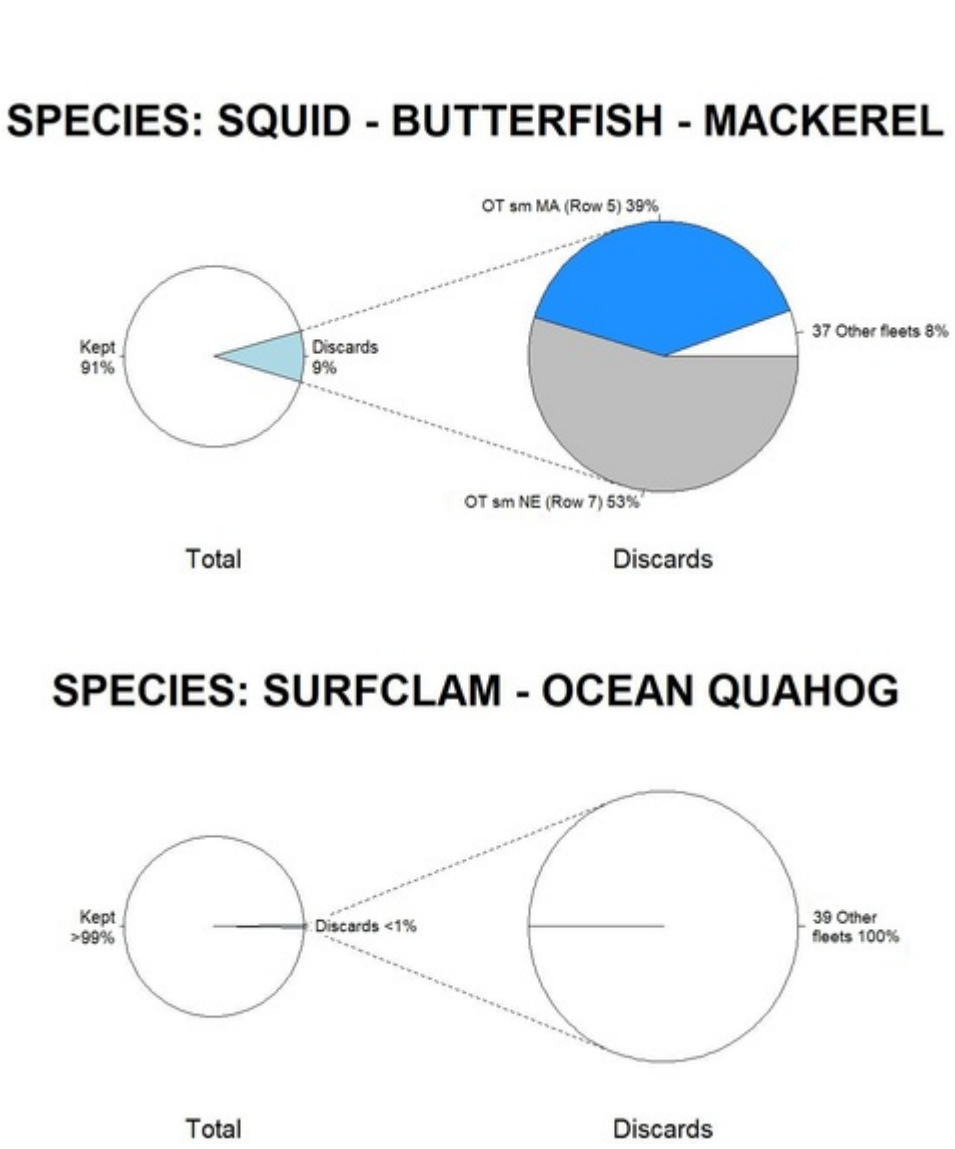


Figure 1A, continued. Percentage of Vessel Trip Report landings (kept) and estimated discards (Total, left pie) and the percentage of estimated discards by fleet (Discards, right pie) for each of the 14 species groups (except Atlantic salmon *[Salmo salar]*), based on July 2018 through June 2019 data. Because percentages have been rounded, they may not always sum to 100%. See Appendix Table 4 for fleet abbreviations.
Top: SMALL MESH GROUNDFISH
Bottom: SPINY DOGFISH *(Squalus acanthias)*



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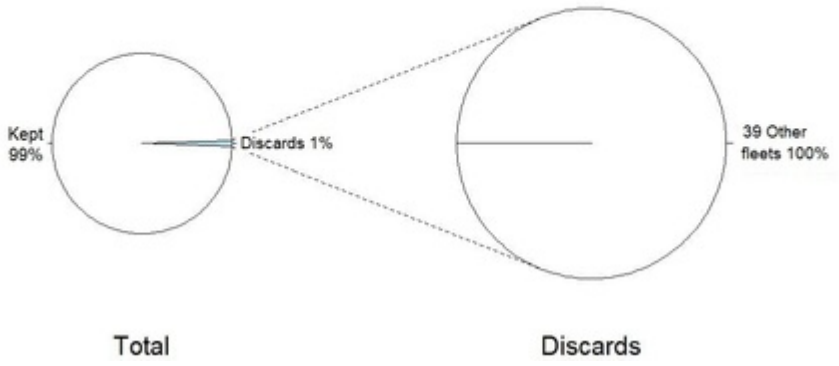
Top: SQUID *(Doryteuthis [Amerigo] pealeii, Illex illecebrosus)* - BUTTERFISH *(Peprilus triacanthus)* - MACKEREL *(Scomber scombrus)*
Bottom: SURFCLAM *(Spisula solidissima)* - OCEAN QUAHOG *(Arctica islandica)*



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Top: TILEFISH

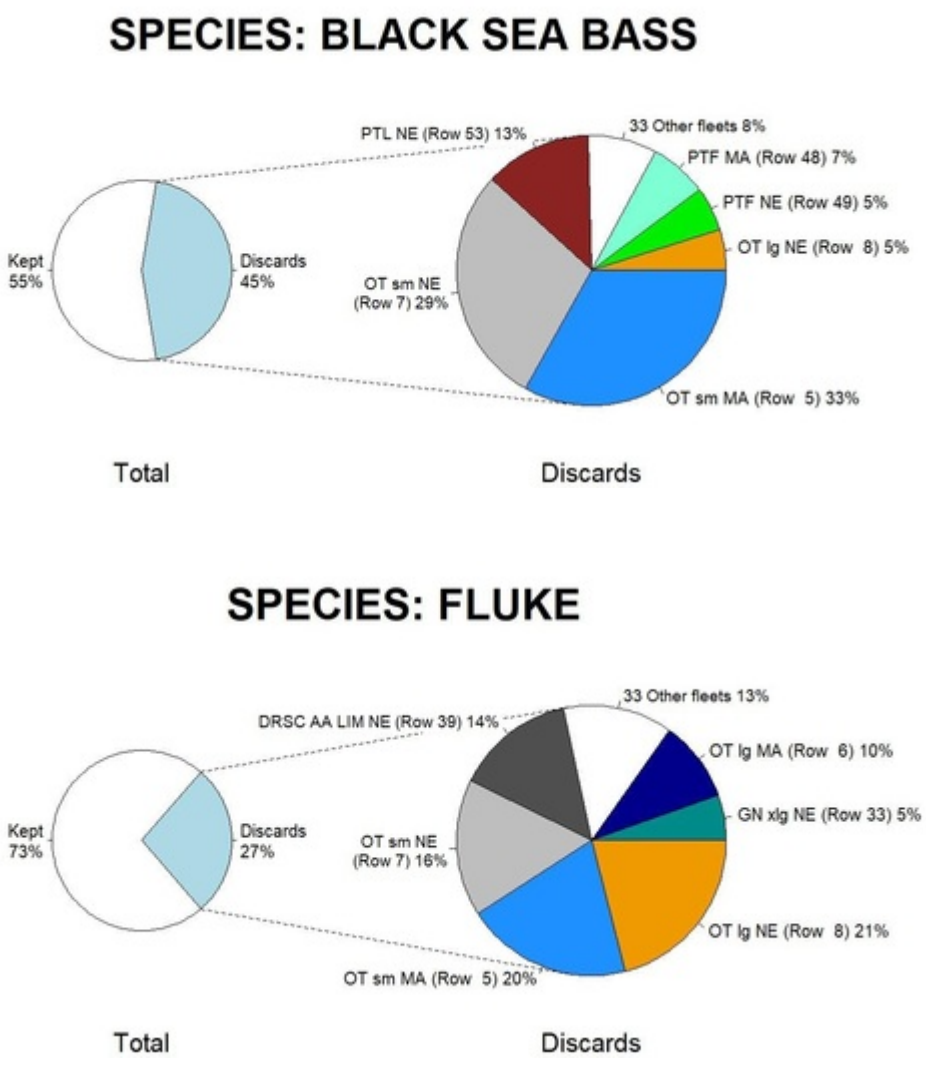
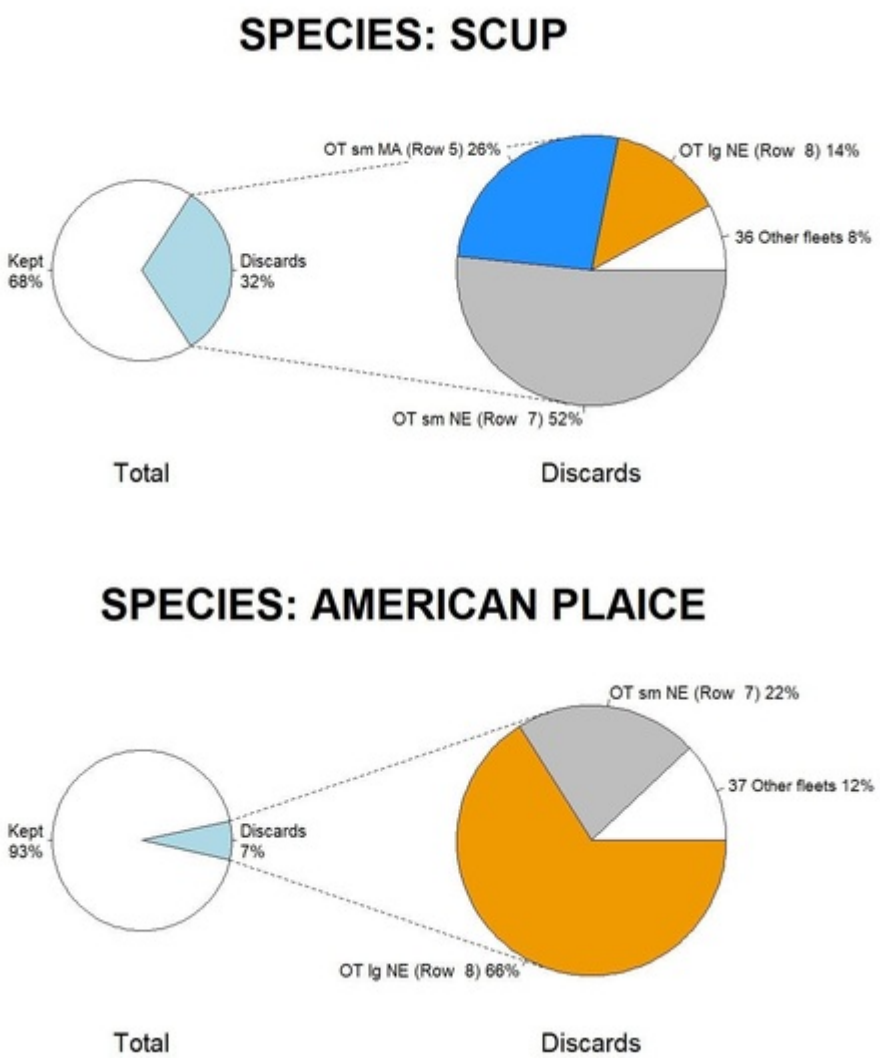


Figure 1B. Percentage of Vessel Trip Report landings (kept) and estimated discards (Total, left pie) and the percentage of estimated discards by fleet (Discards, right pie) for the 25 individual species that compose the 14 species groups, based on July 2018 through June 2019 data. Because percentages have been rounded, they may not always sum to 100%. See Appendix Table 4 for fleet abbreviations.
Top: BLACK SEA BASS *(Centropristis striata)*
Bottom: FLUKE *(Paralichthys dentatus)*



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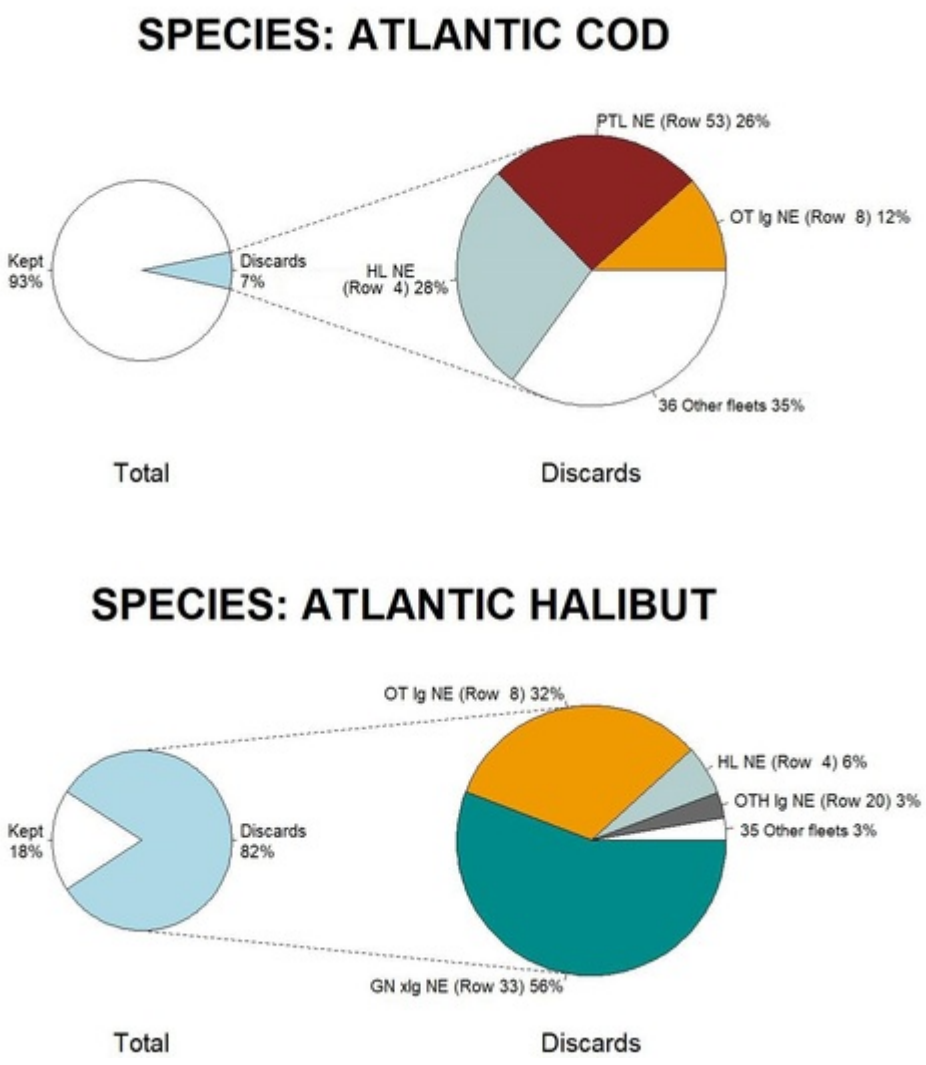
Top: SCUP *(Stenotomus chrysops)*
Bottom: AMERICAN PLAICE *(Hippoglossoides platessoides)*



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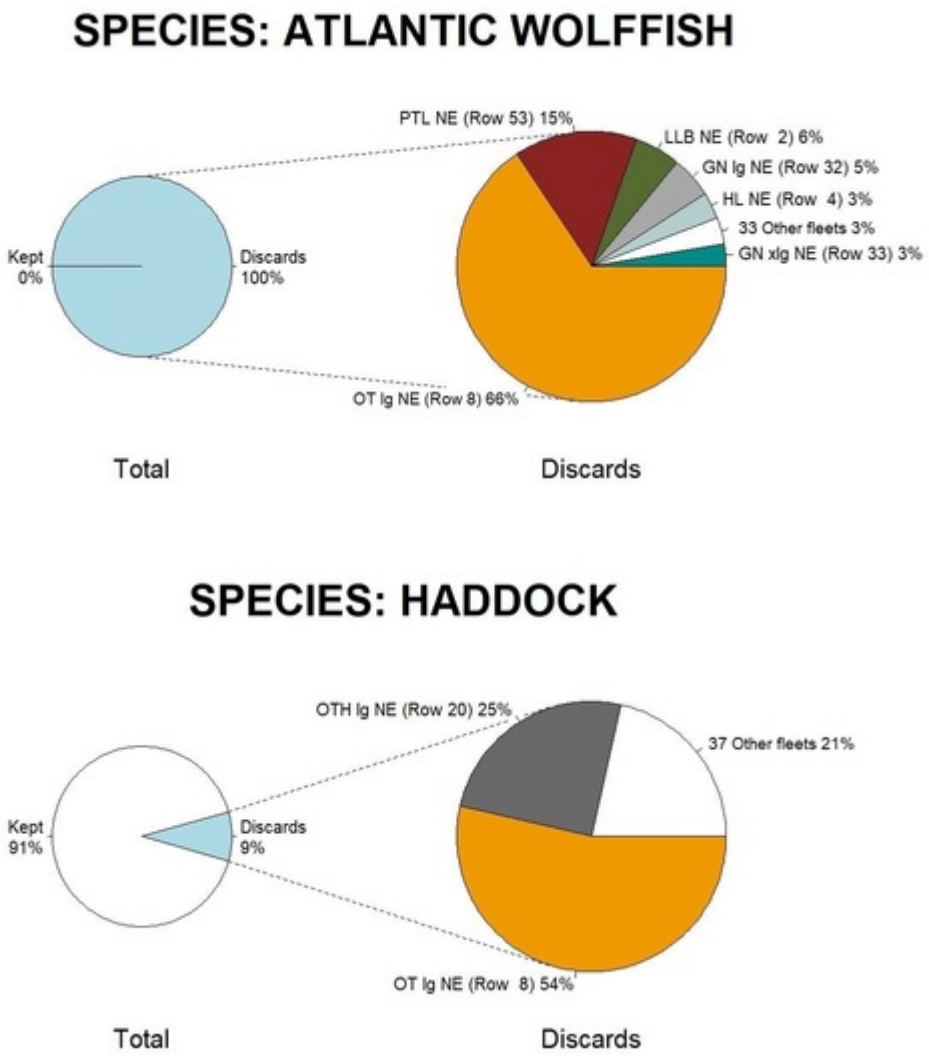
Top: ATLANTIC COD *(Gadus morhua)*
Bottom: ATLANTIC HALIBUT *(Hippoglossus hippoglossus)*



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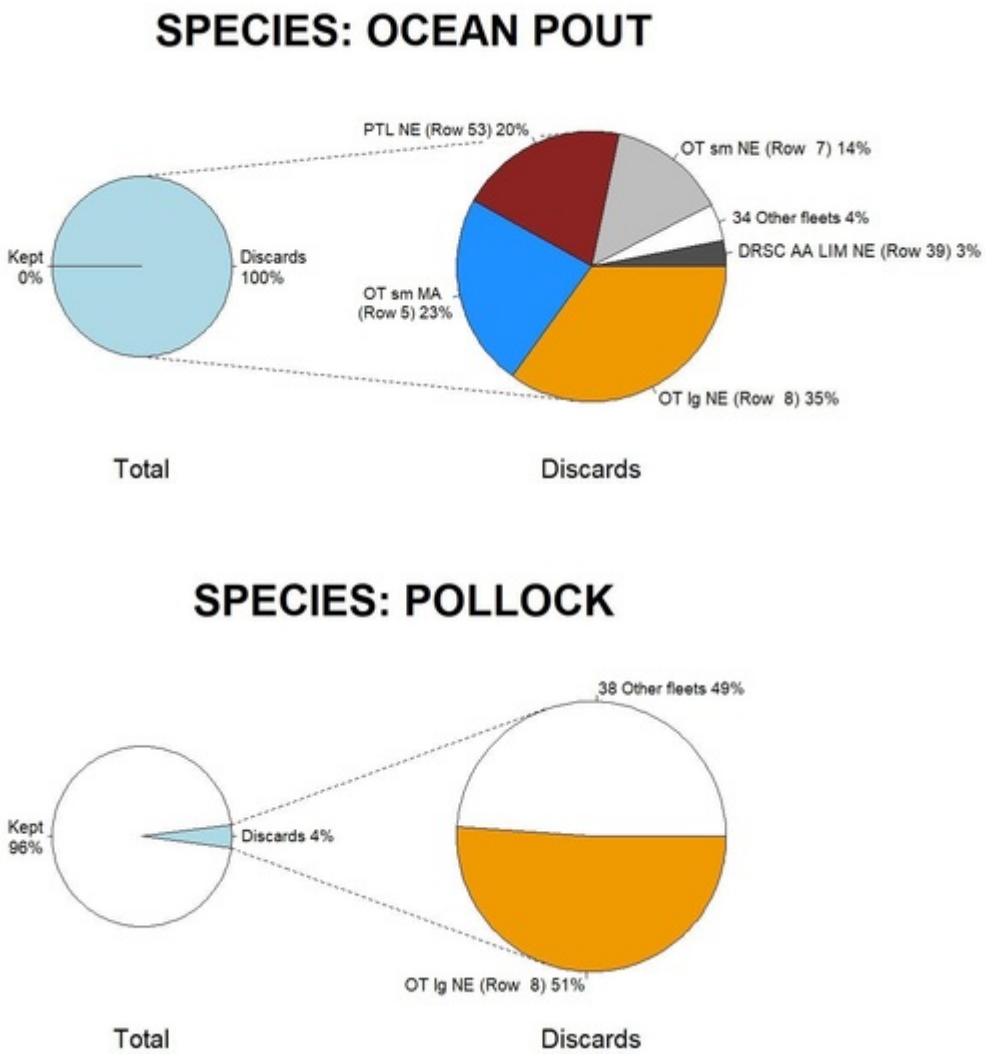
Top: ATLANTIC WOLFFISH *(Anarhichas lupus)*
Bottom: HADDOCK *(Melanogrammus aeglefinus)*



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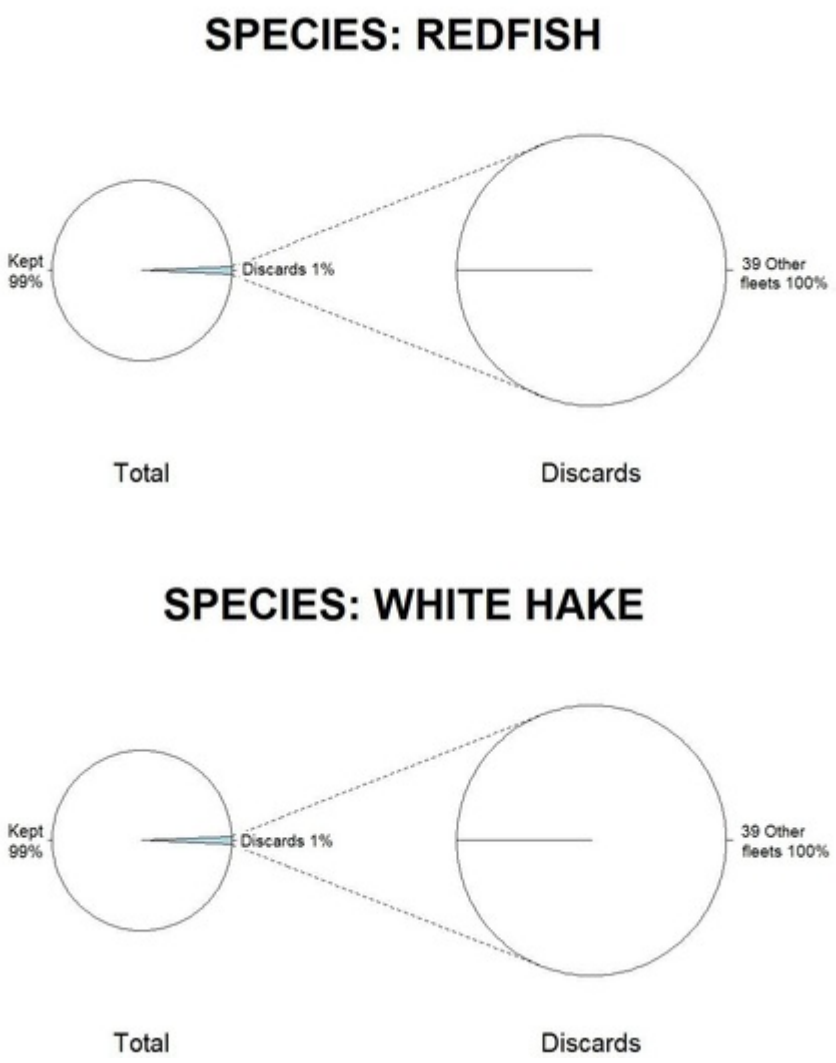
Top: OCEAN POUT *(Zoarces americanus)*
Bottom: POLLOCK *(Pollachius virens)*



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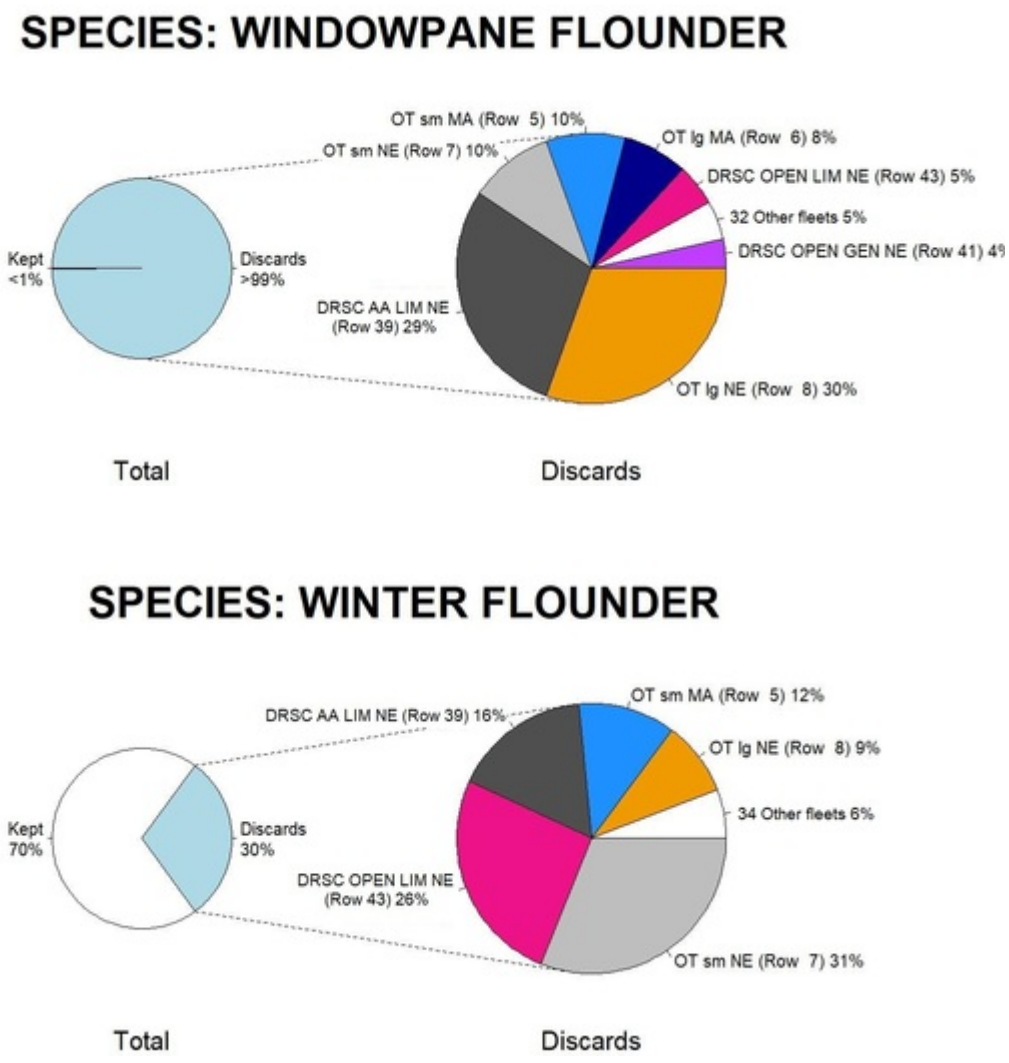
Top: REDFISH *(Sebastes fasciatus)*
Bottom: WHITE HAKE *(Urophycis tenuis)*



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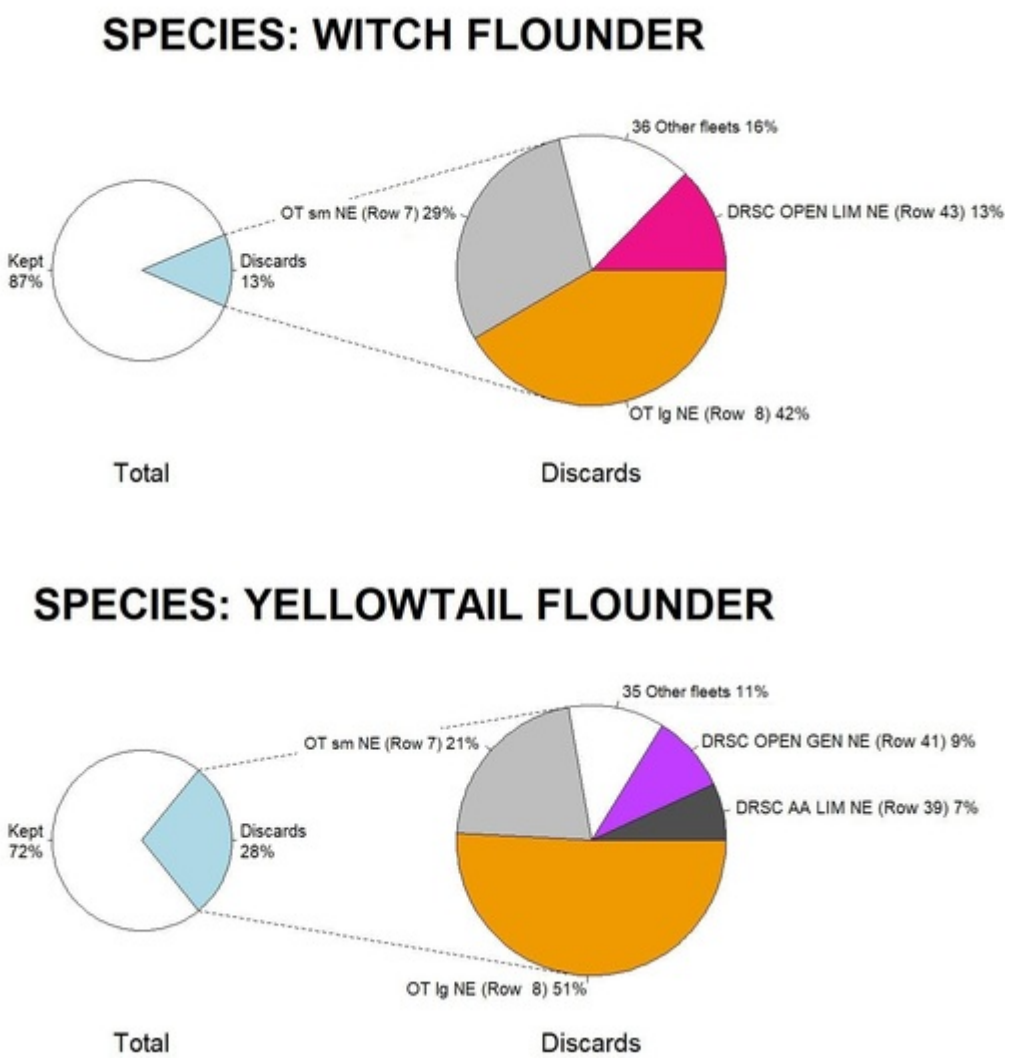
Top: WINDOWPANE FLOUNDER *(Scophthalmus aquosus)*
Bottom: WINTER FLOUNDER *(Pseudopleuronectes americanus)*



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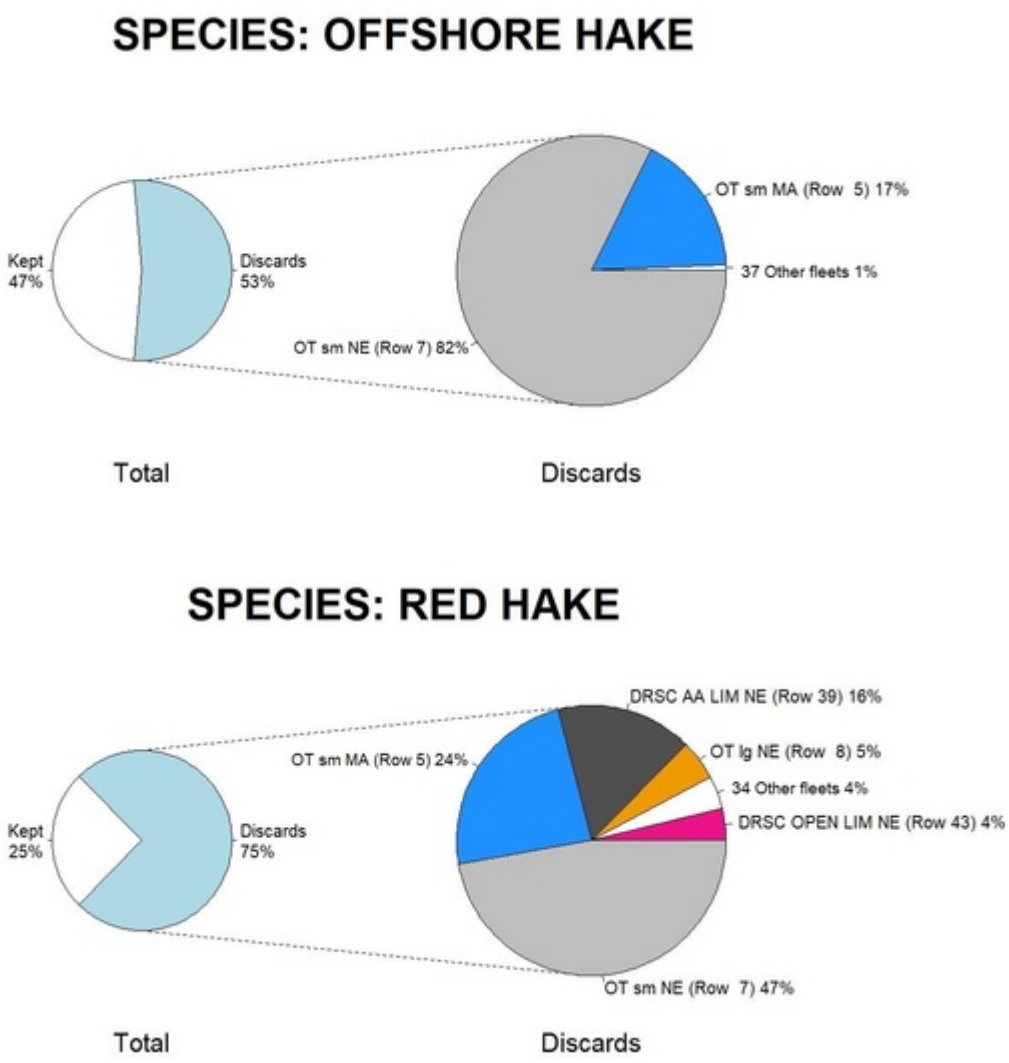
Top: WITCH FLOUNDER *(Glyptocephalus cynoglossus)*
Bottom: YELLOWTAIL FLOUNDER *(Limanda ferruginea)*



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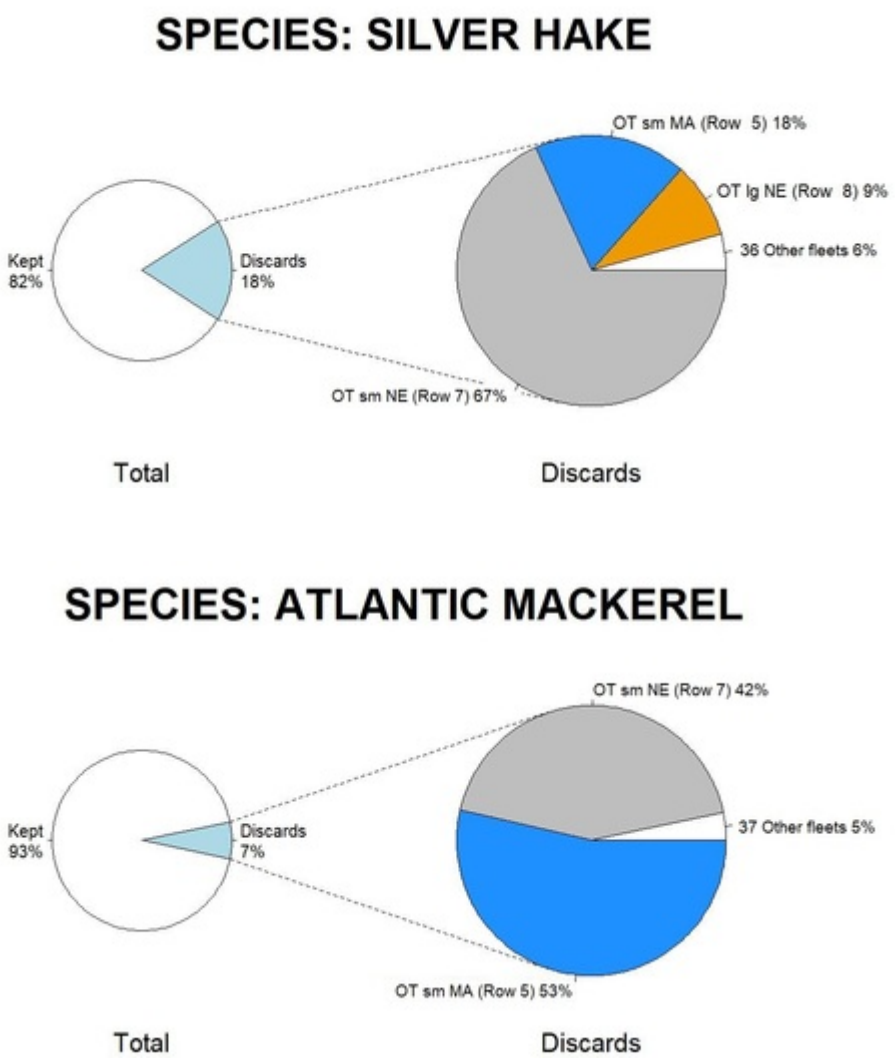
Top: OFFSHORE HAKE *(Merluccius albidus)*
Bottom: RED HAKE *(Urophycis chuss)*



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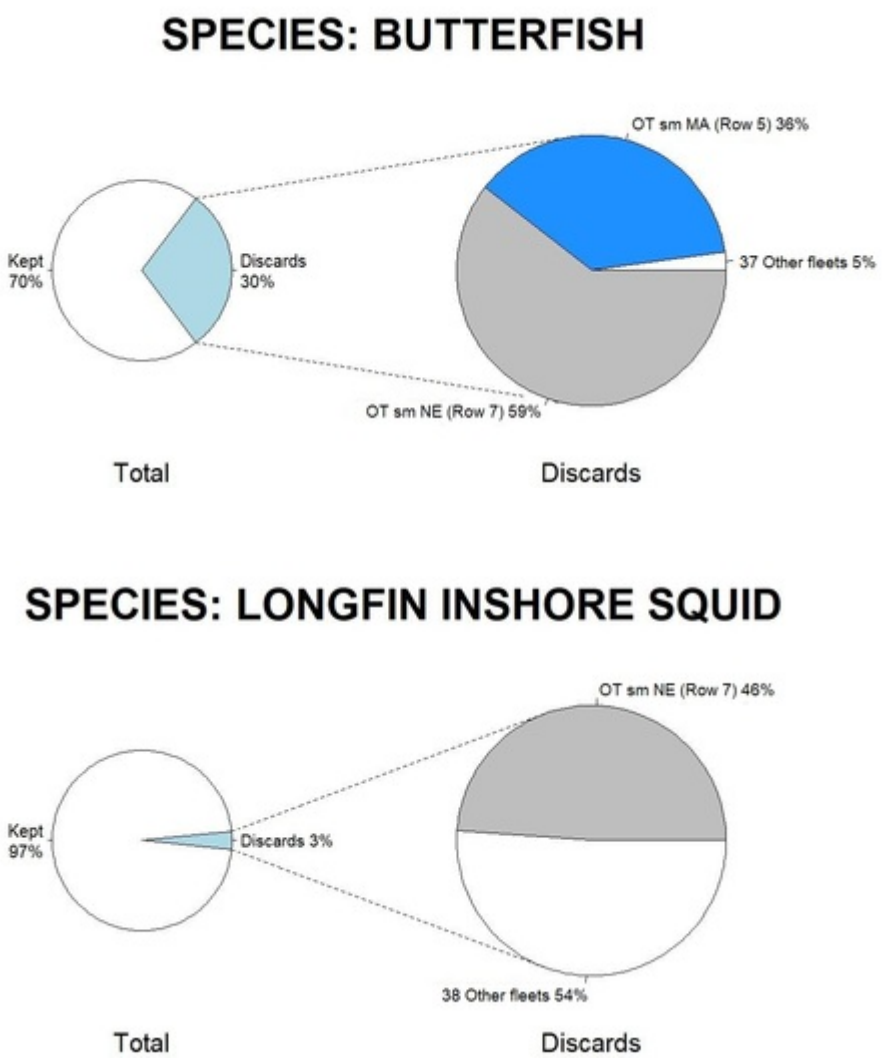
Top: SILVER HAKE *(Merluccius bilinearis)*
Bottom: ATLANTIC MACKEREL *(Scomber scombrus)*



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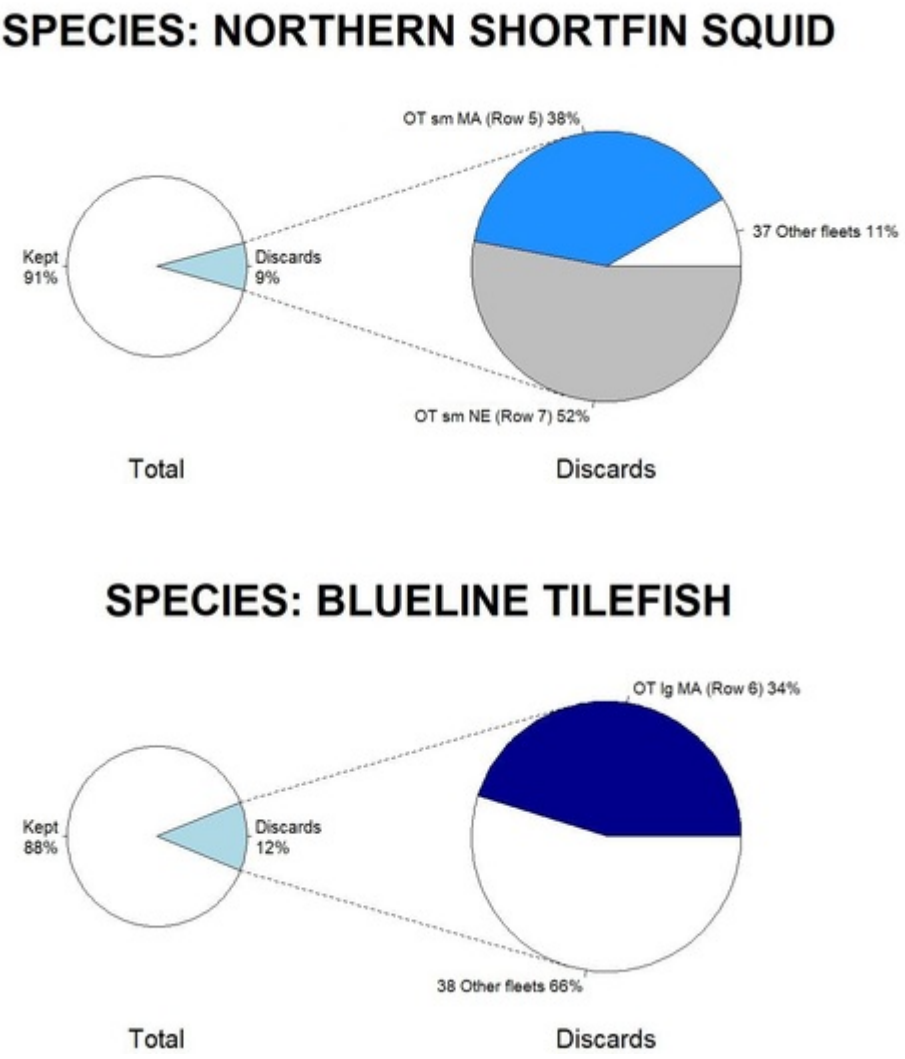
Top: BUTTERFISH *(Peprilus triacanthus)*
Bottom: LONGFIN INSHORE SQUID *(Doryteuthis [Amerigo] pealeii)*



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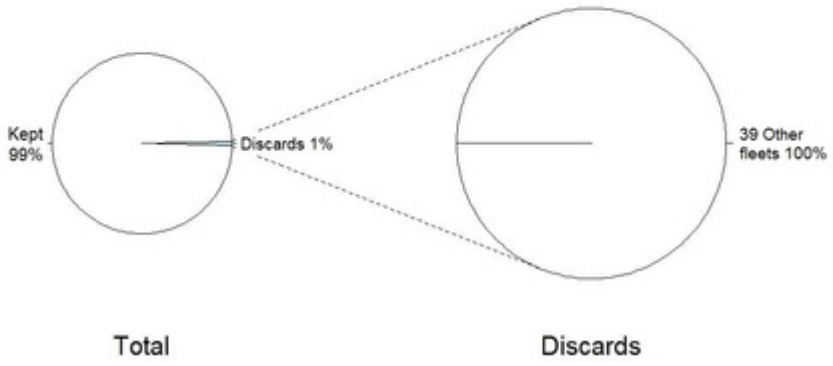
Top: NORTHERN SHORTFIN SQUID *(Illex illecebrosus)*
Bottom: BLUELINE TILEFISH *(Caulolatilus microps)*



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Top: GOLDEN TILEFISH *(Lopholatilus chamaeleonticeps)*

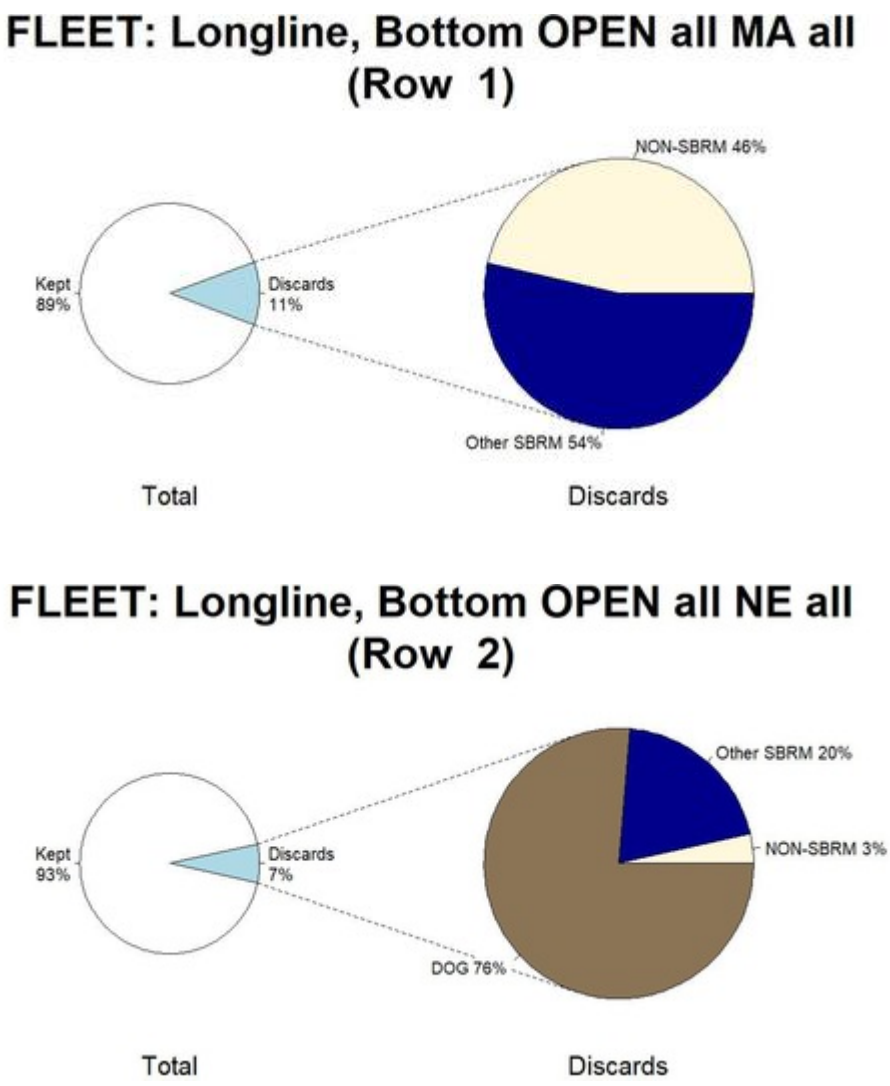
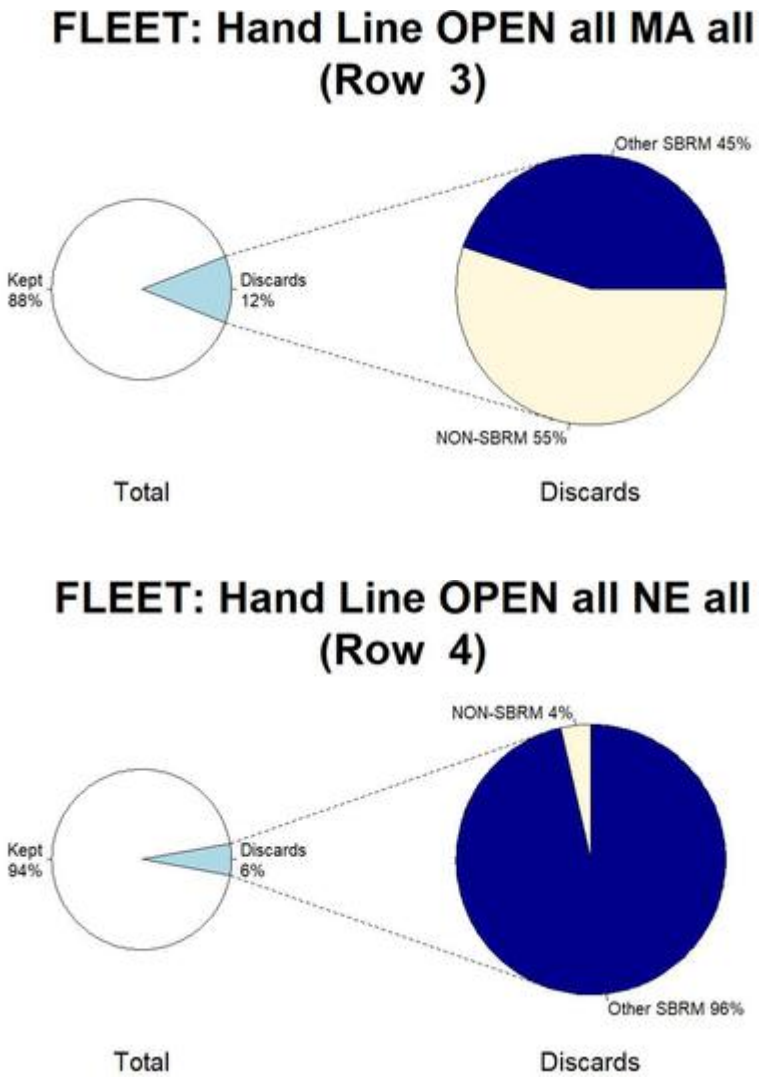


Figure 2. Percentage of Vessel Trip Report landings (kept) and estimated discards (Total, left pie) and the percentage of estimated discards by species groups (Discards, right pie) for 37 nonpilot fleets, based on July 2018 through June 2019 data. Because percentages have been rounded, they may not always sum to 100%. See Table 1 for species group abbreviations. See text and Appendix Table 4 for fleet abbreviations. Standardized Bycatch Reporting Methodology (SBRM) species groups that were filtered out through the importance filter have been aggregated and labeled "Other SBRM;" non-SBRM species have been grouped and labeled "Non-SBRM."



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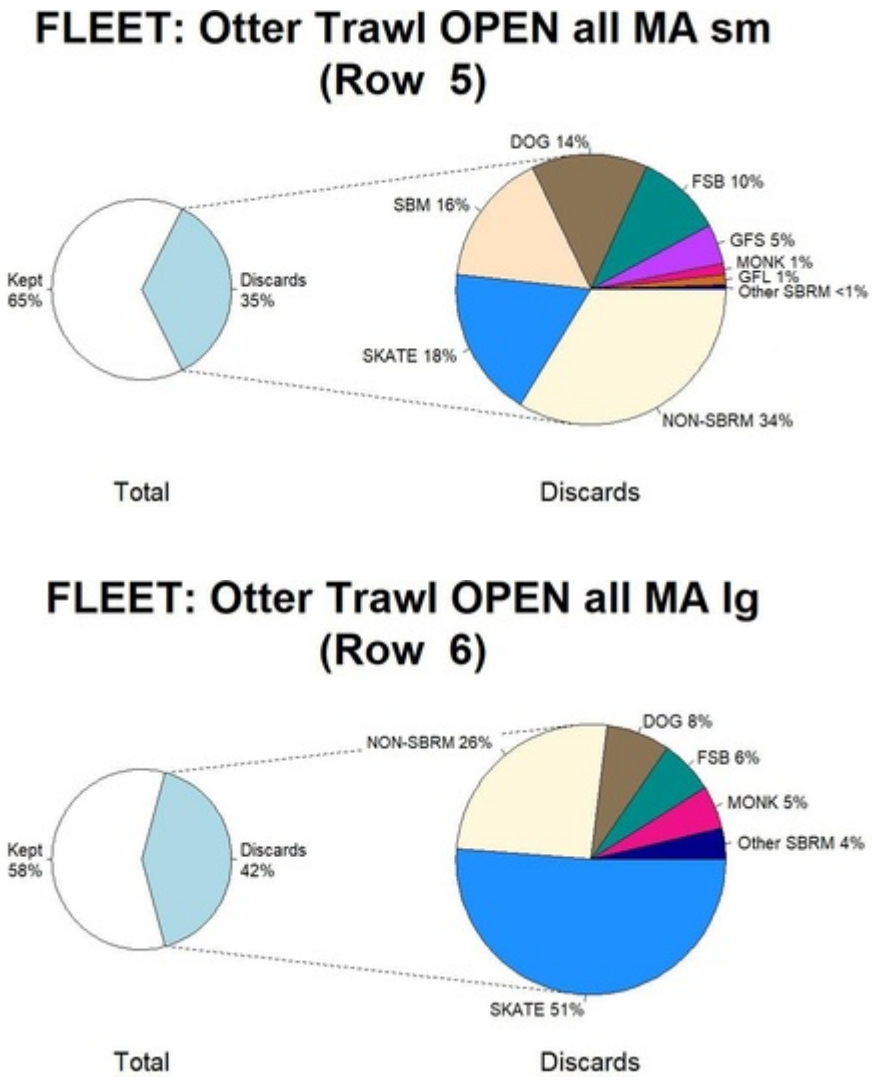

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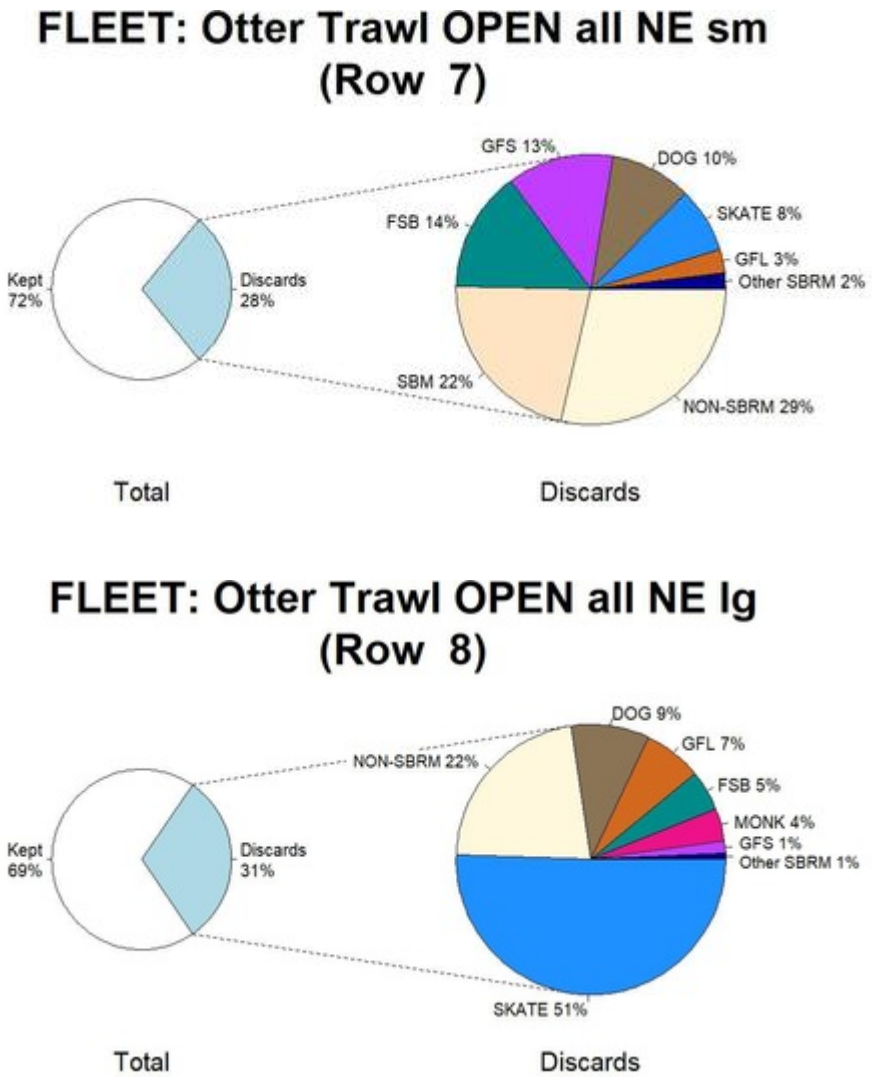

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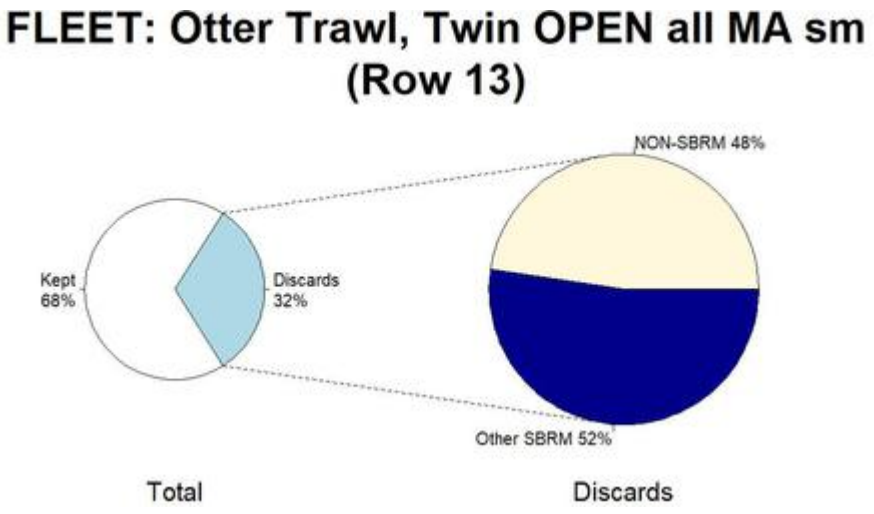

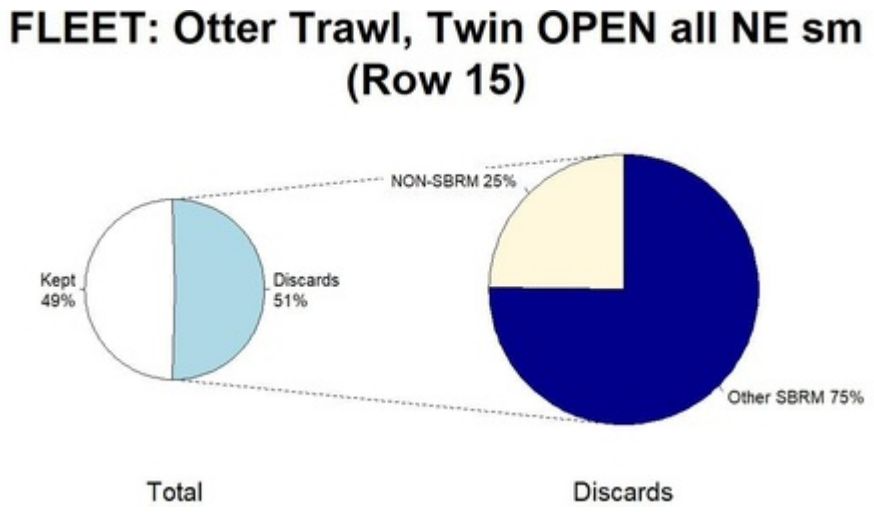

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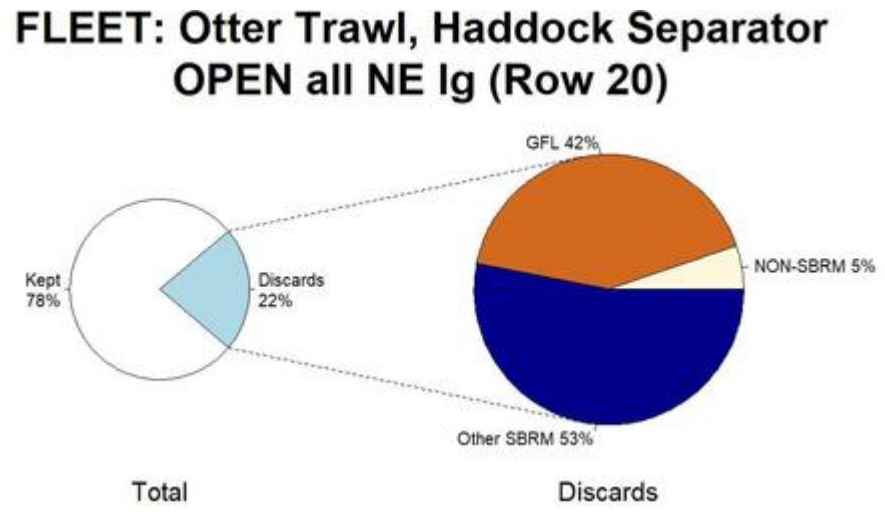

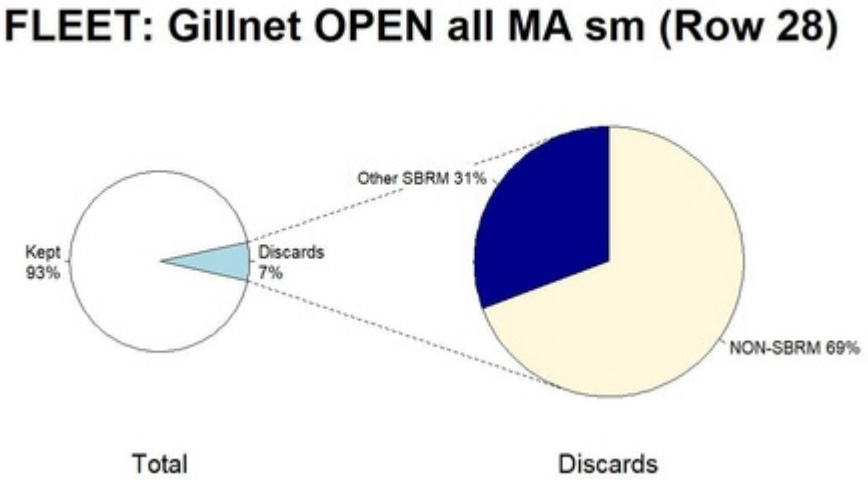

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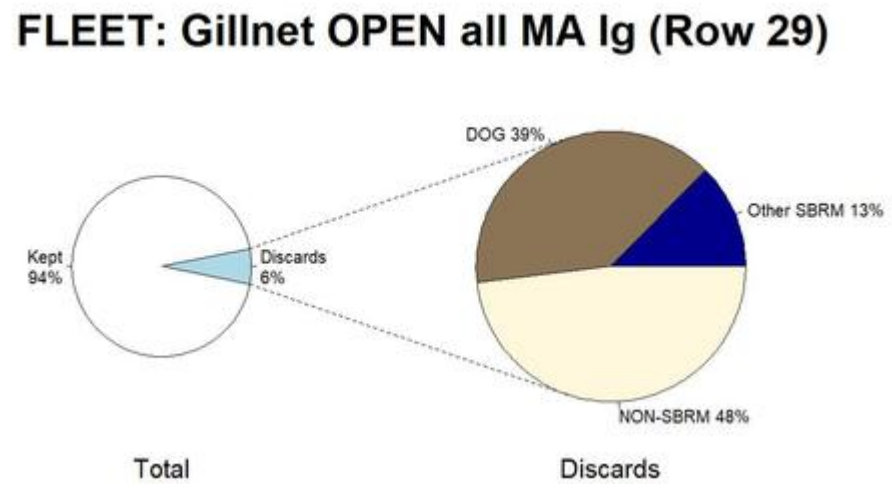

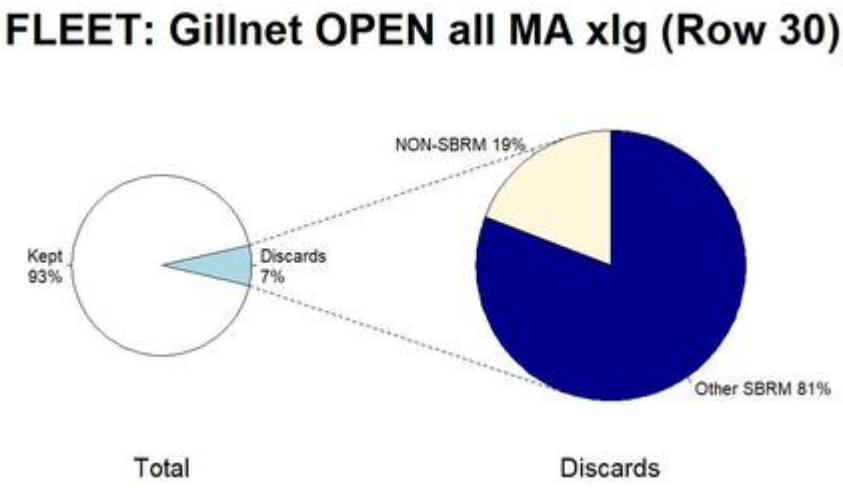

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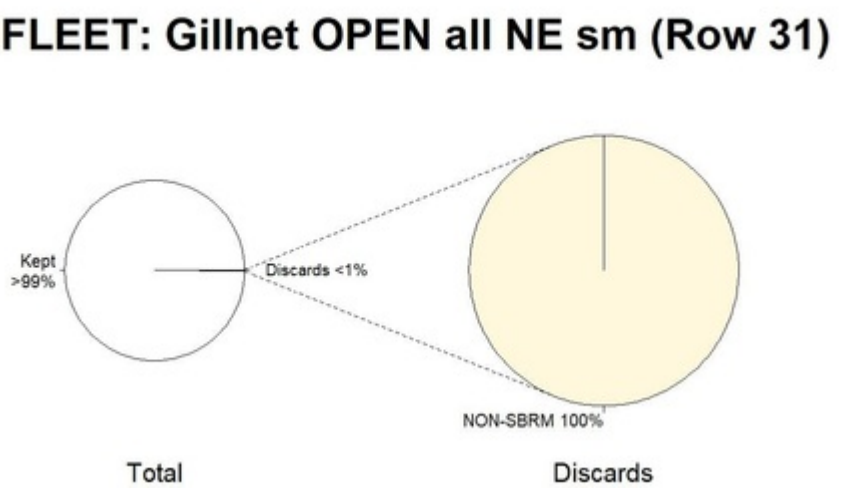

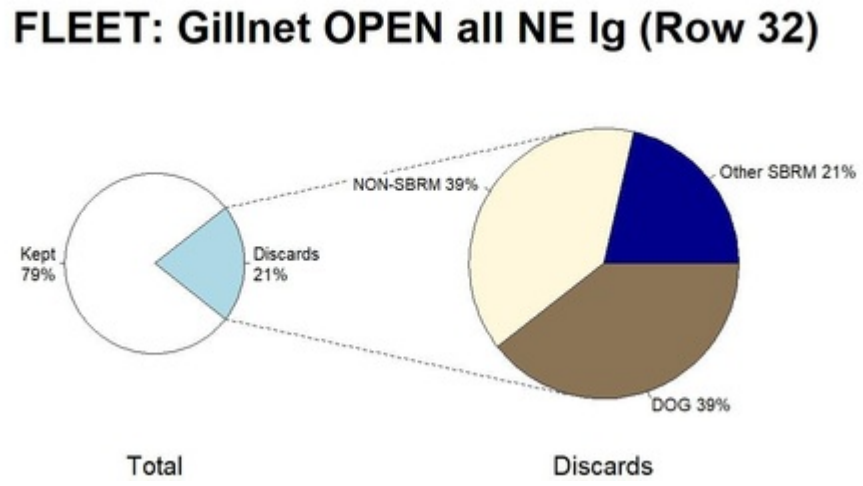

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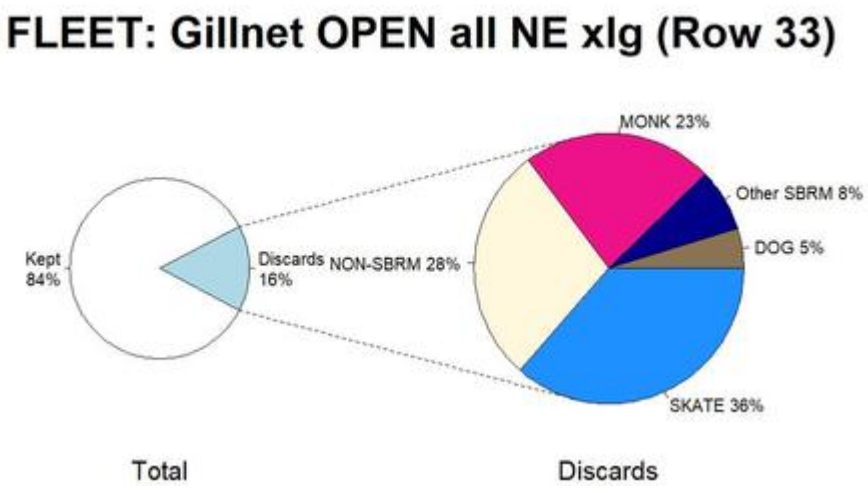

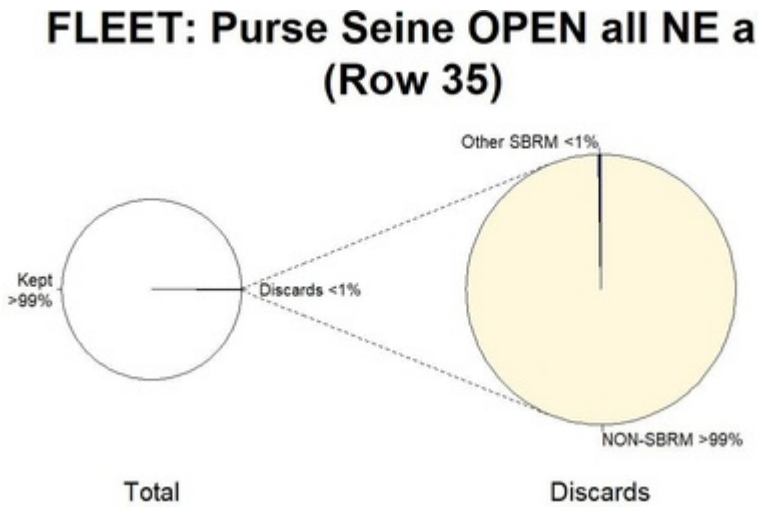

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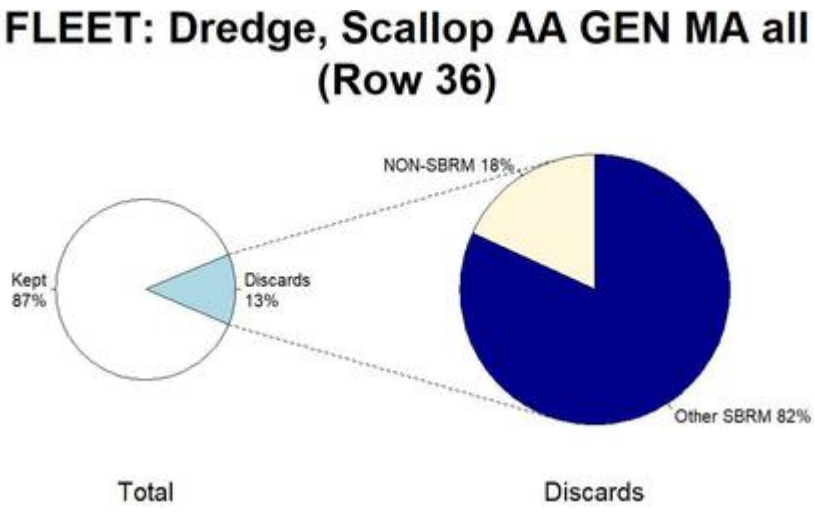

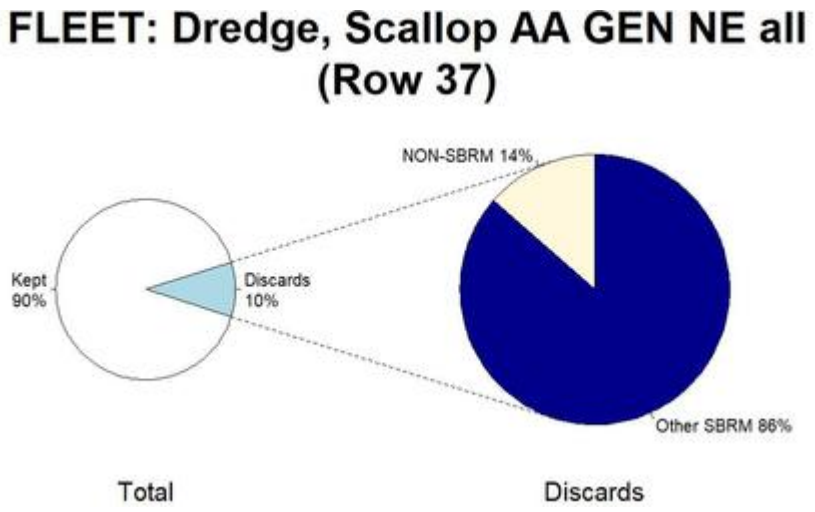

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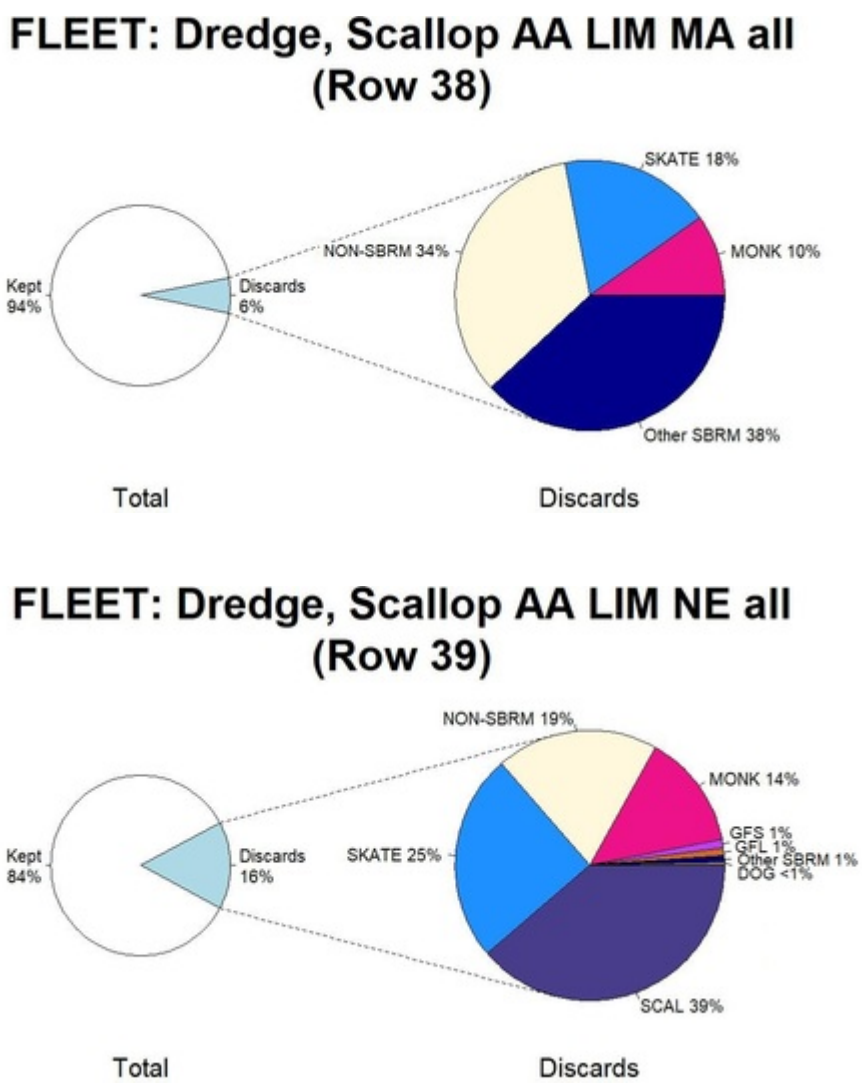

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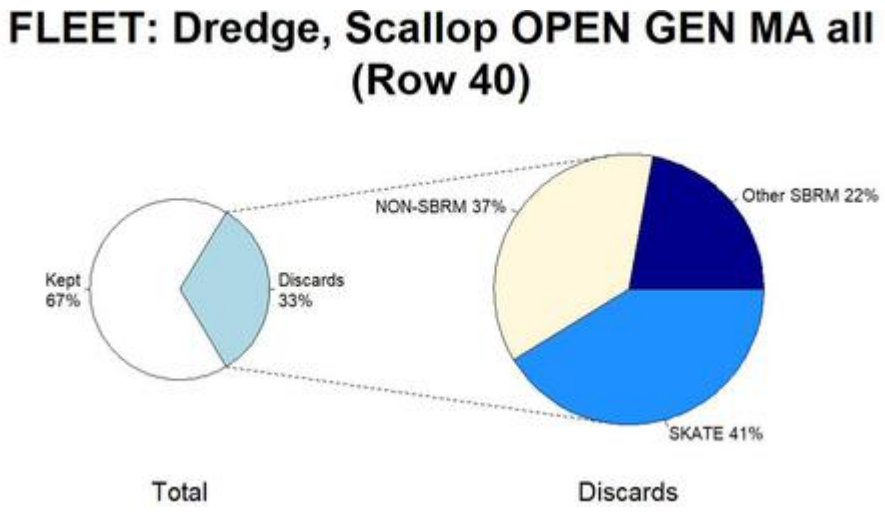

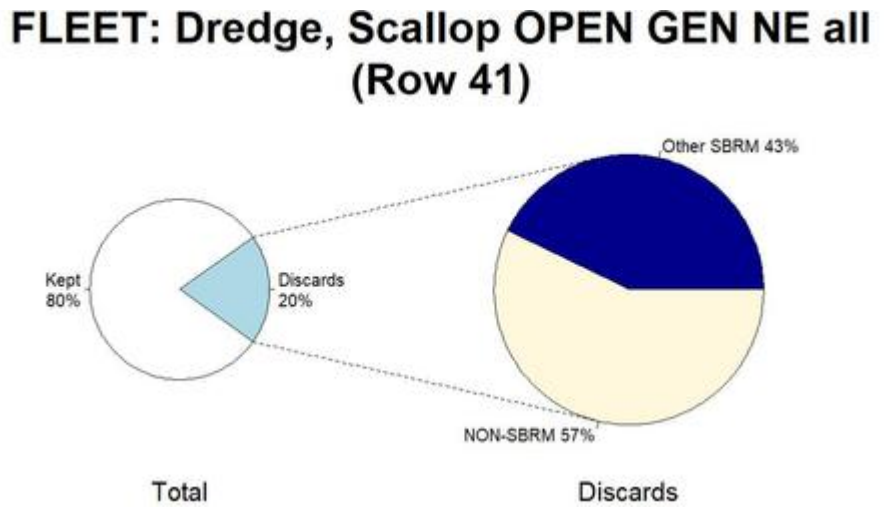

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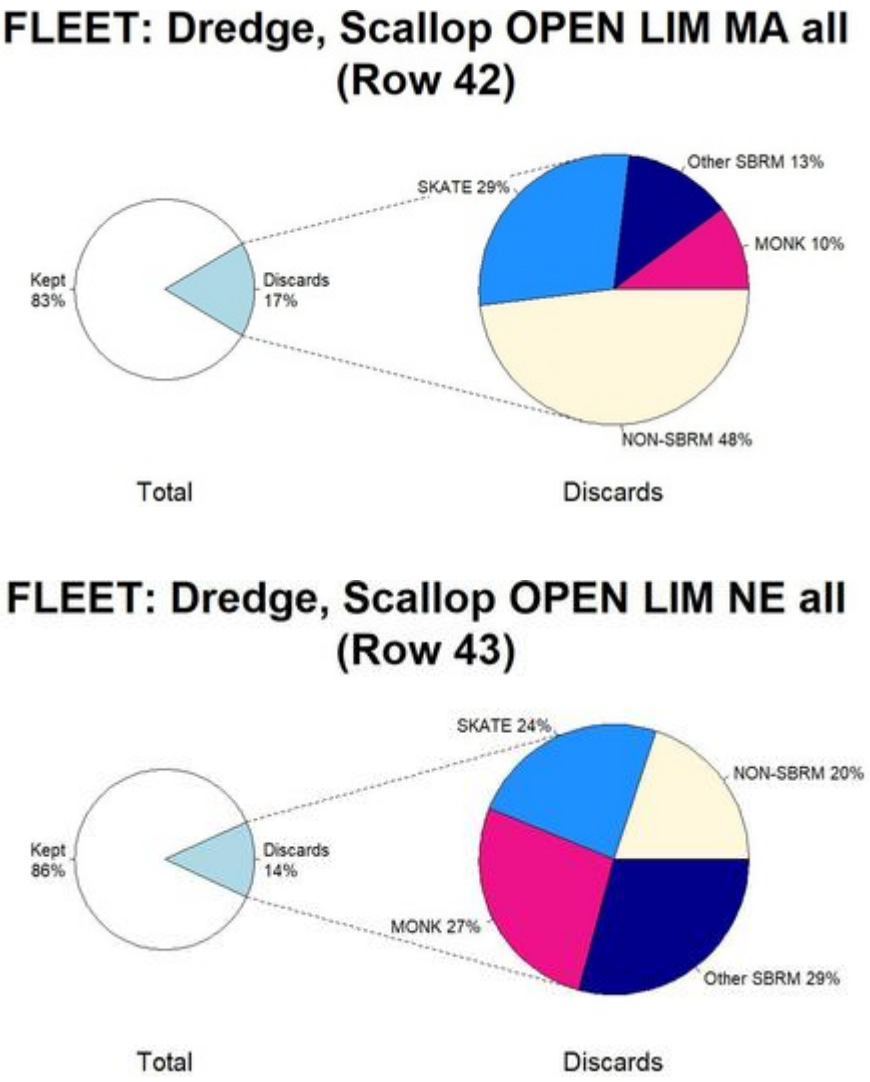

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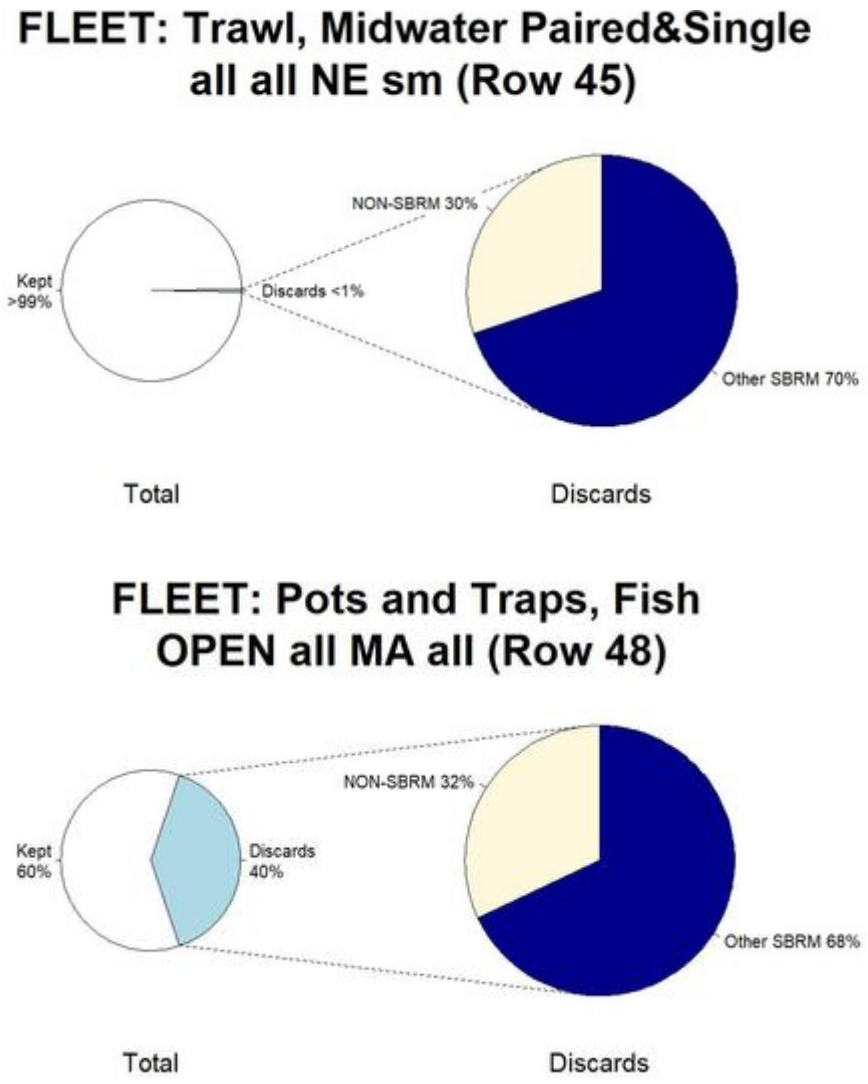

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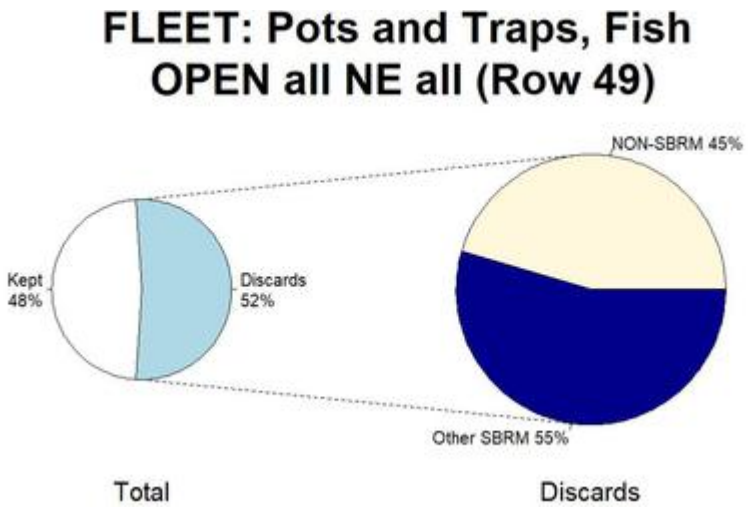

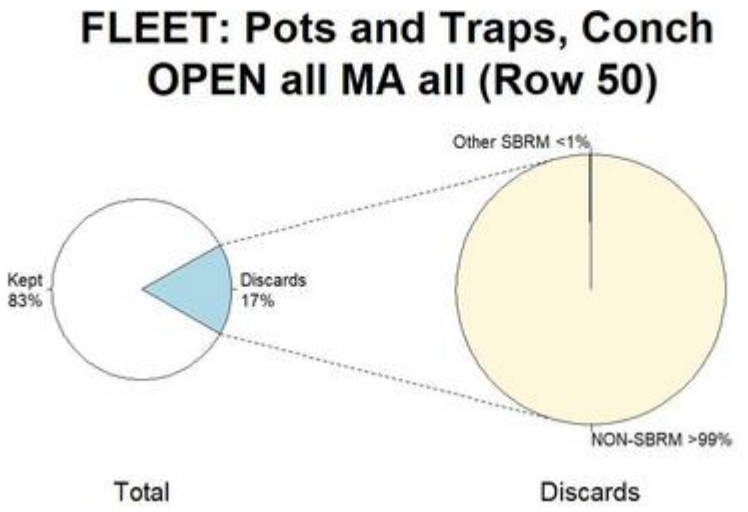

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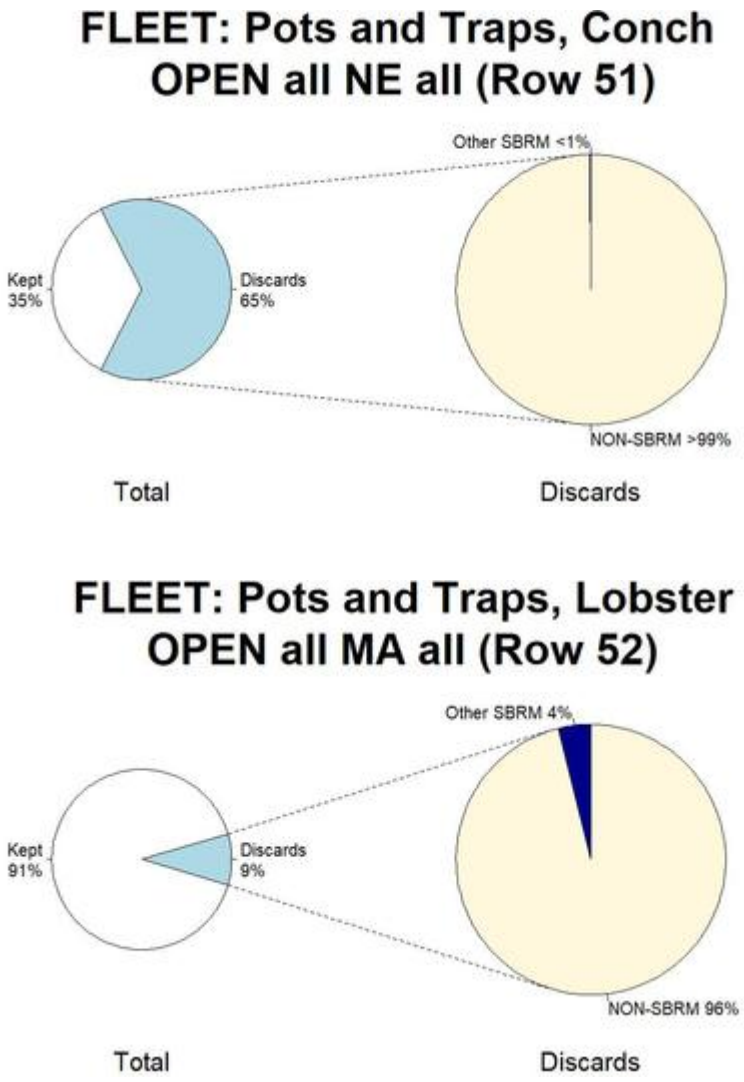

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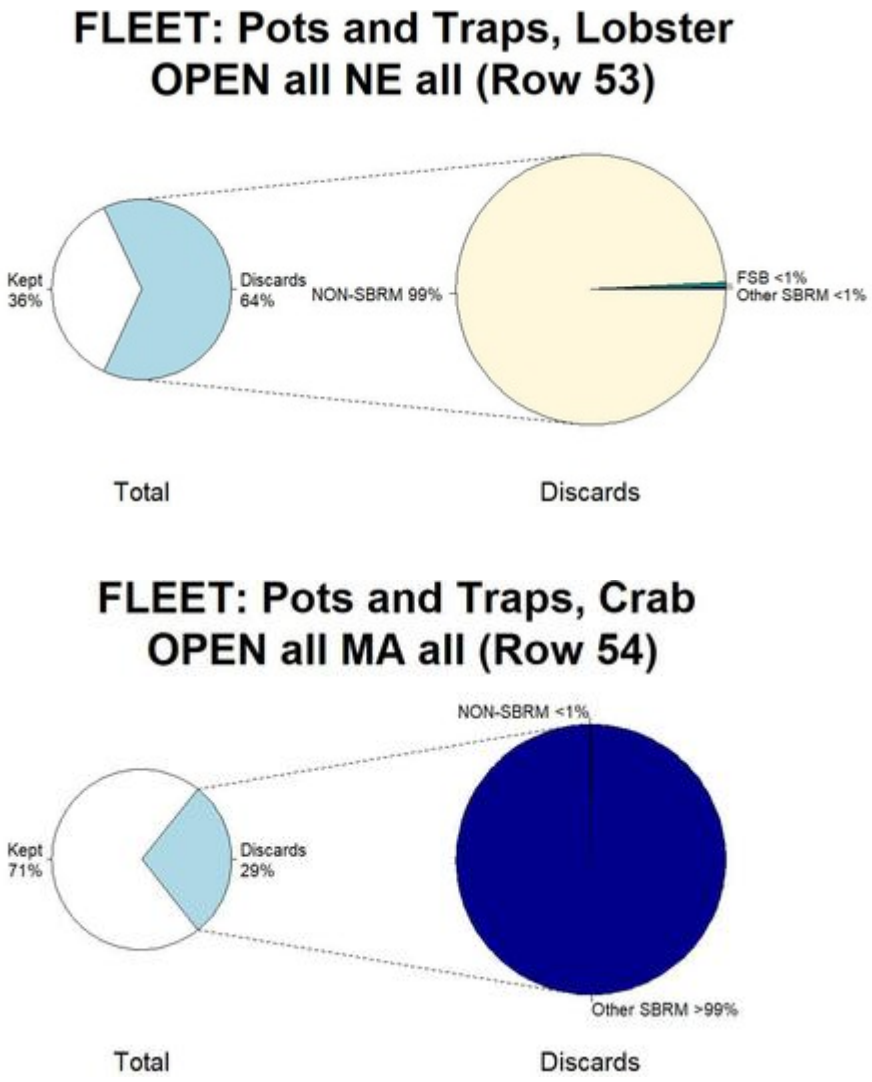

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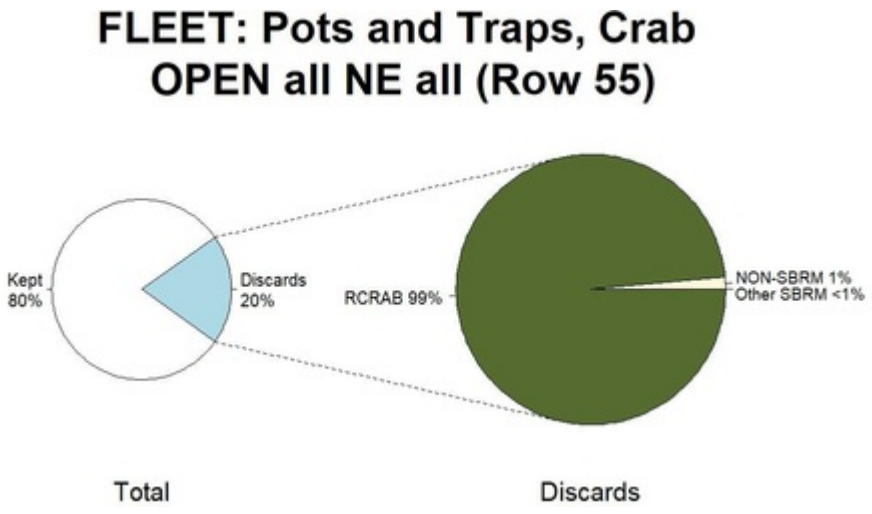

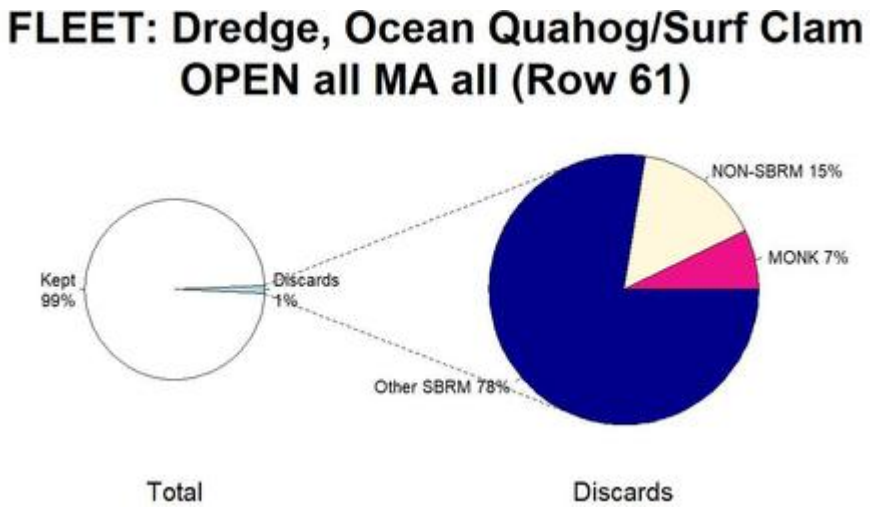

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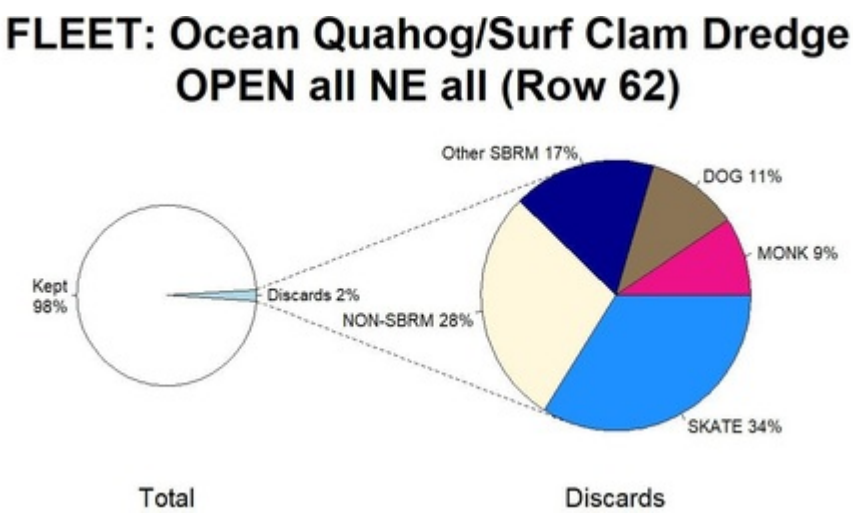

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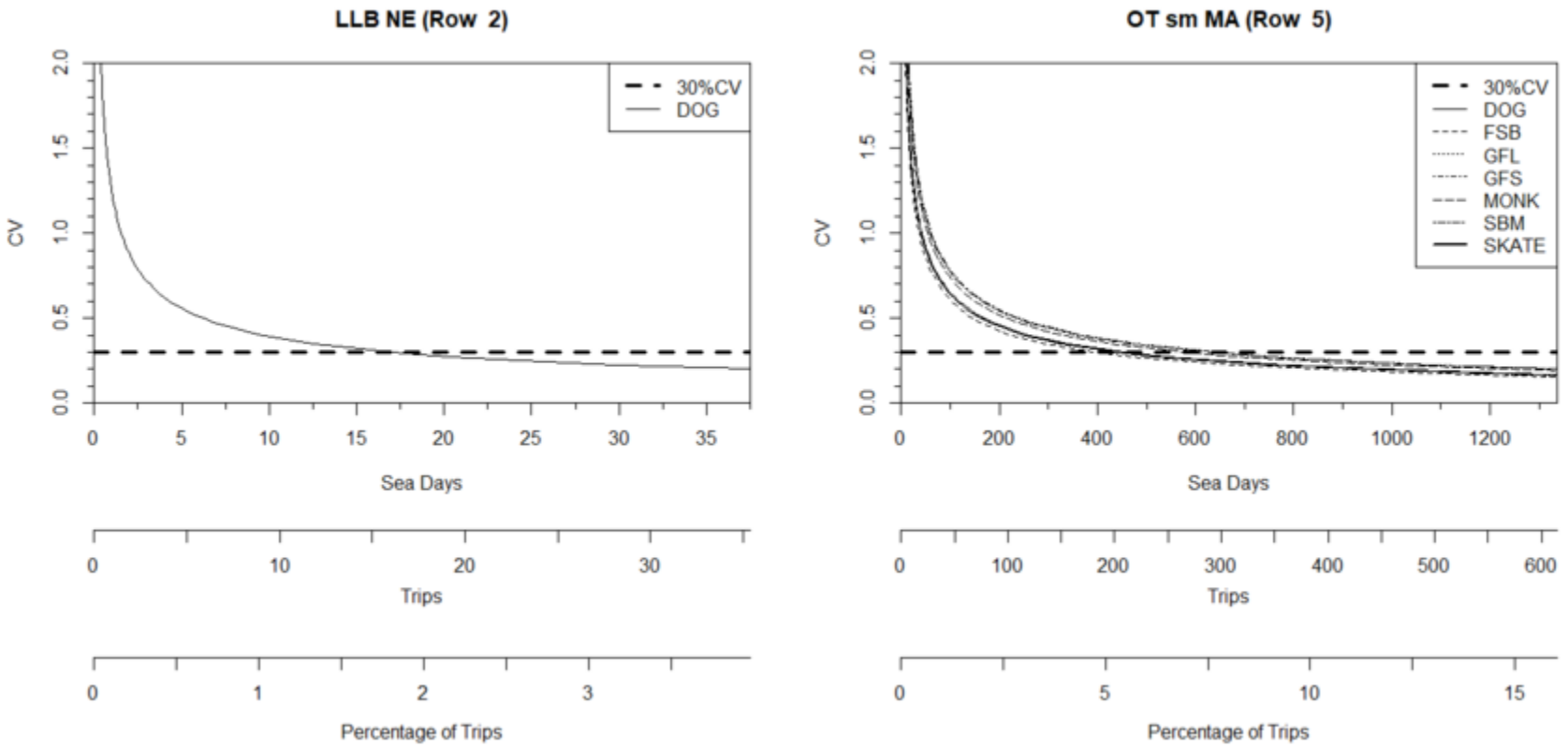
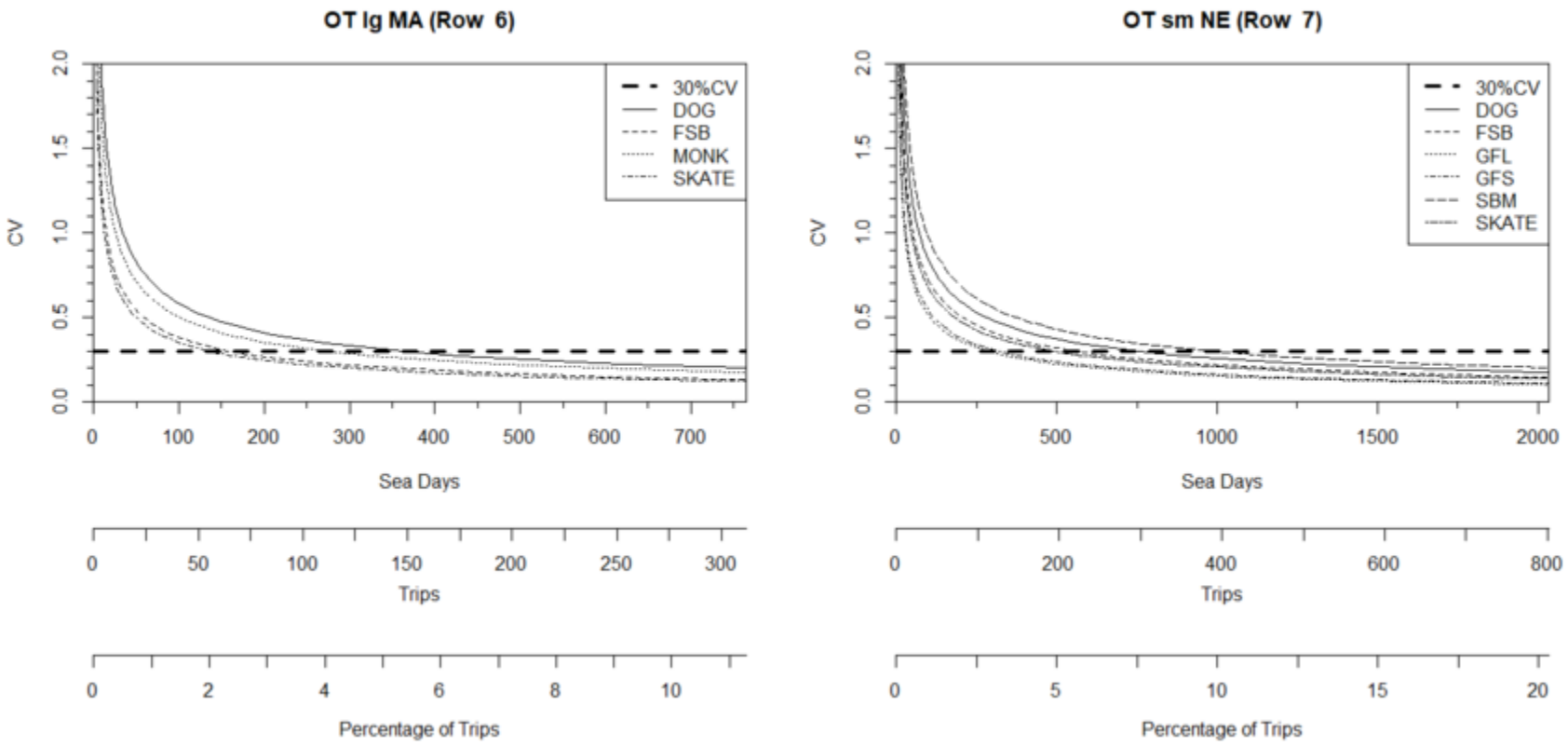


Figure 3. Results from the 2020 sample size analysis conducted for selected fleets, based on July 2018 through June 2019 data. The curves represent the relationship between the coefficient of variance (CV) and the sample size (sea days, trips, and percent of trips) for each of the species groups that was not filtered out. The dash line is the 30% CV. Minimum pilot coverage (MPC) is indicated with an arrow when MPC is greater than the variance-based sample size. For species group and fleet abbreviations, see Table 1 and Appendix Table 4, respectively.



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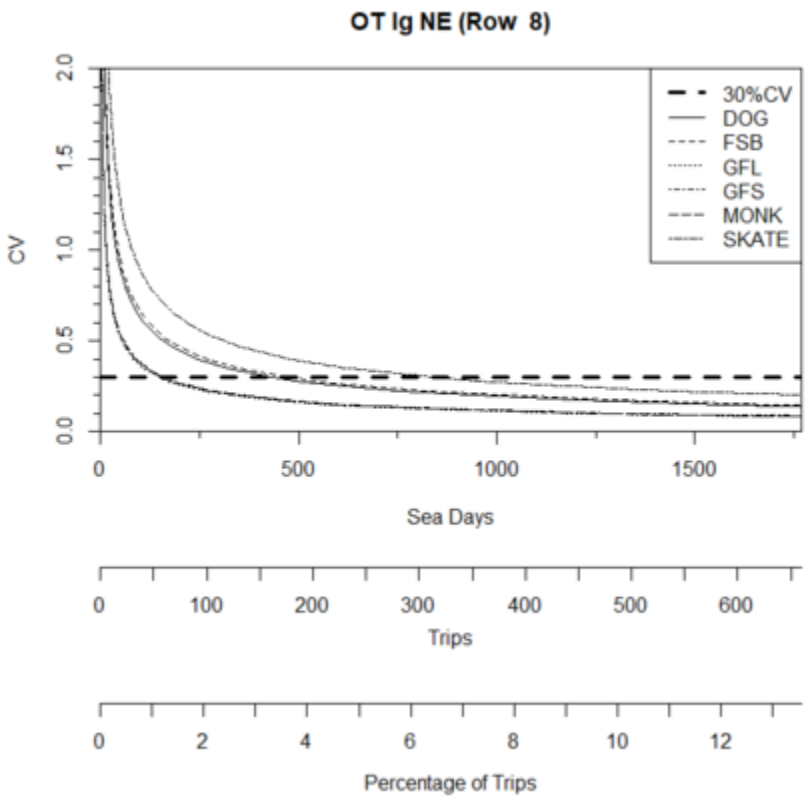

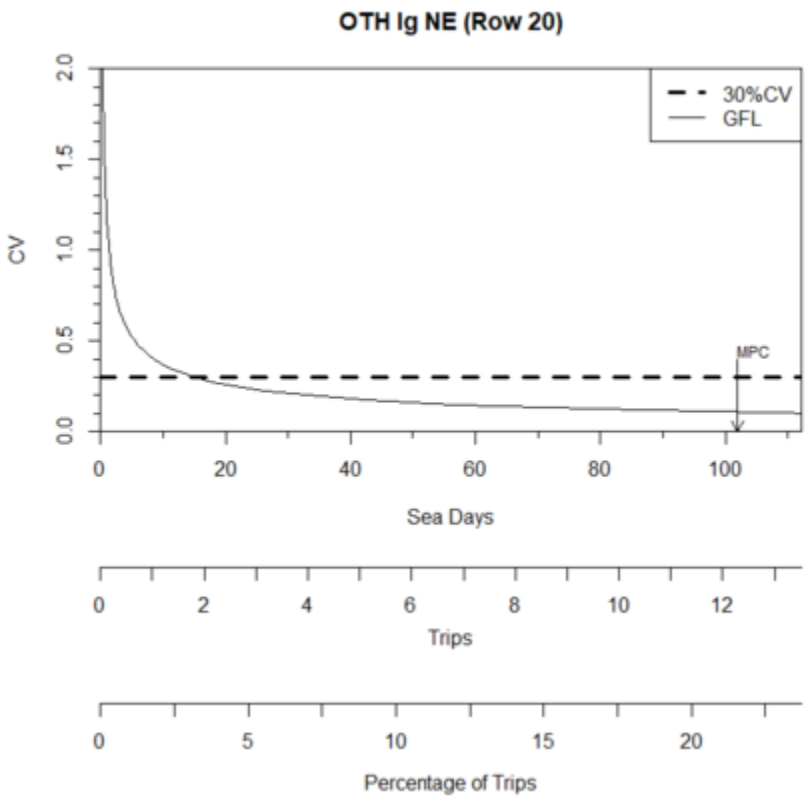

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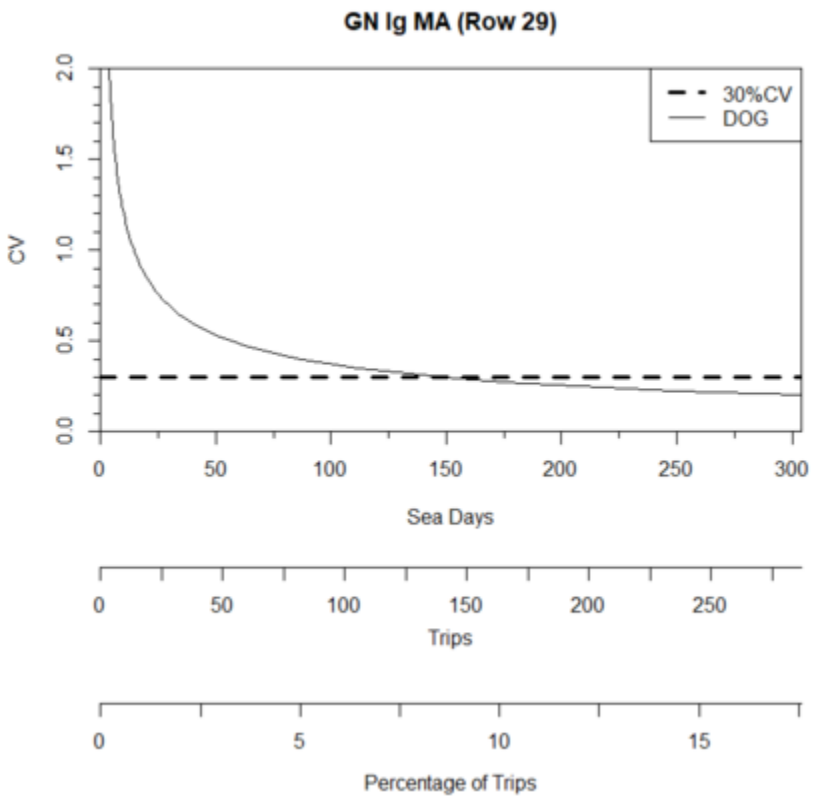

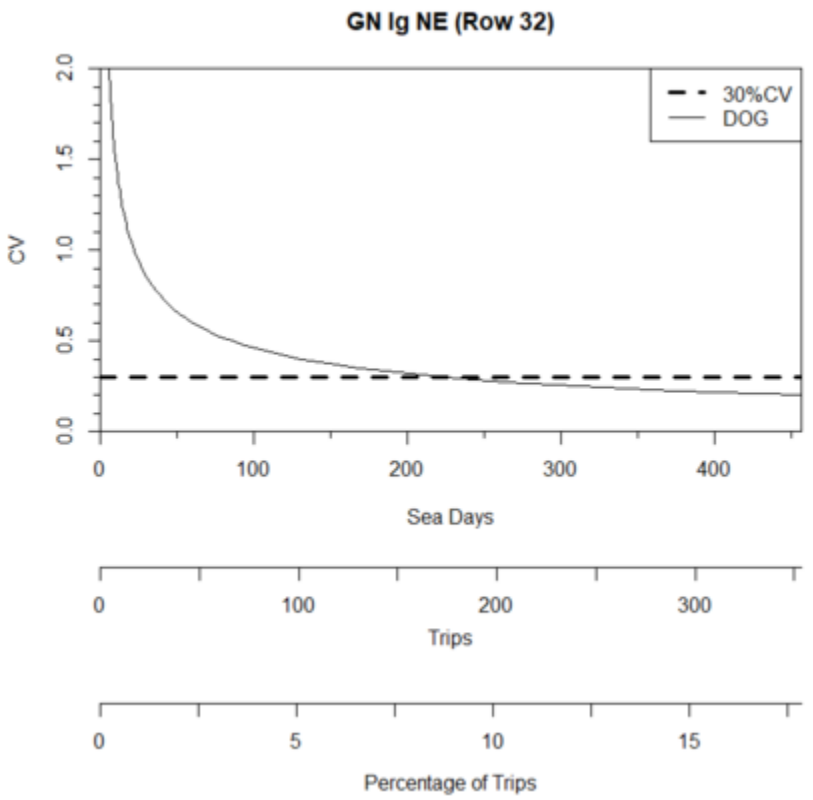

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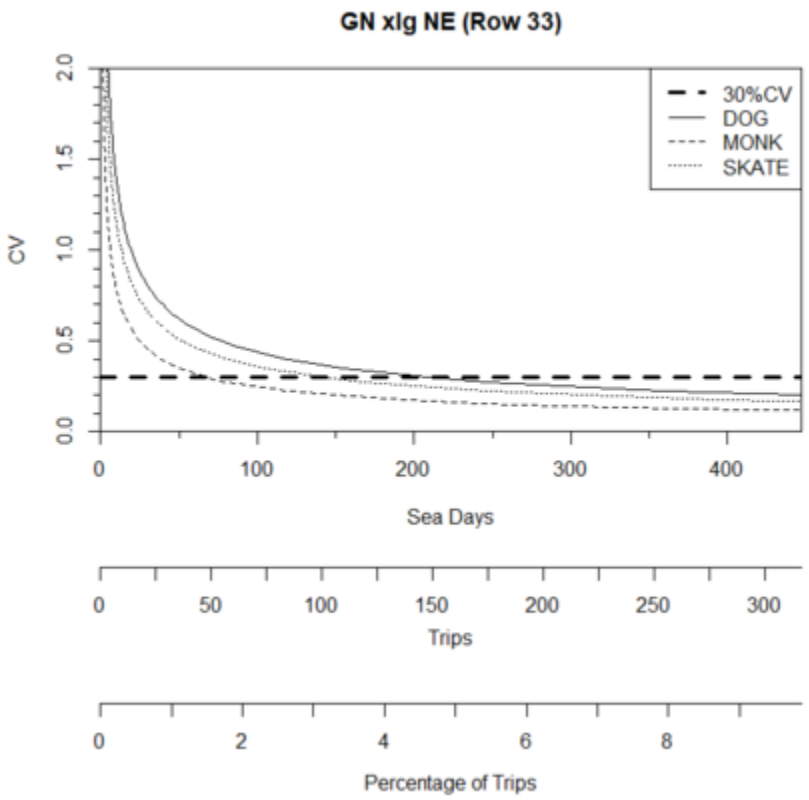

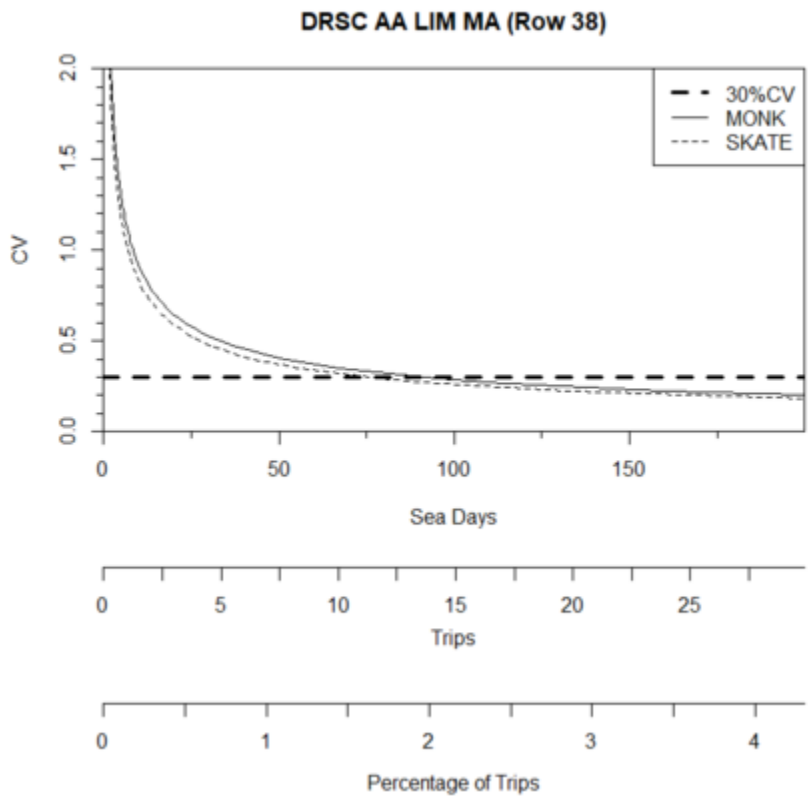

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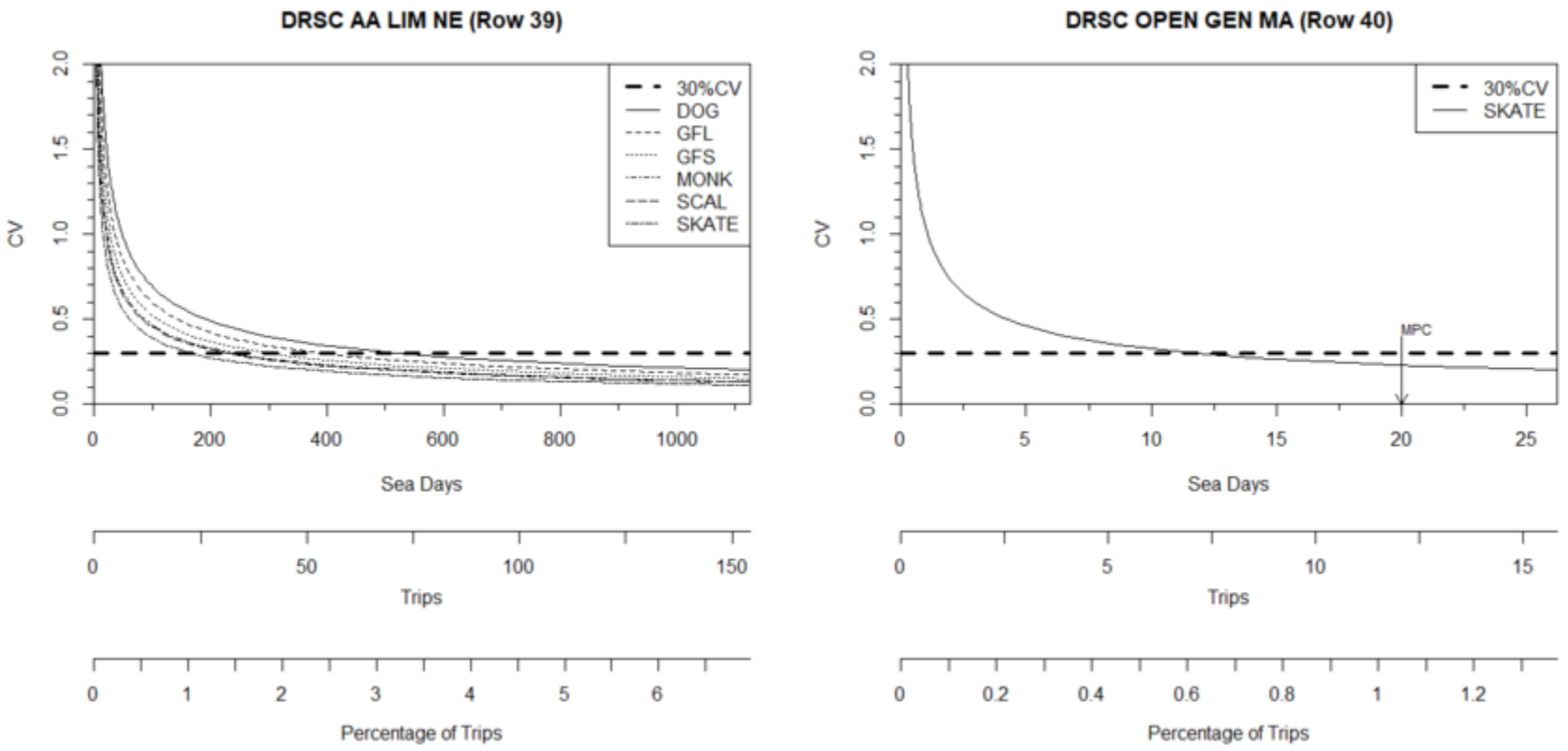

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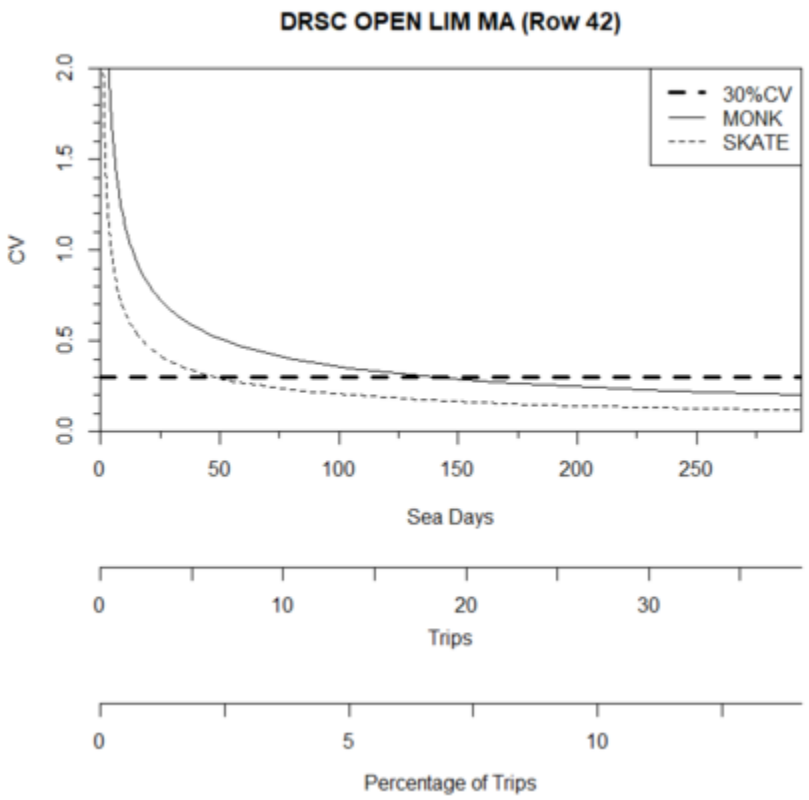

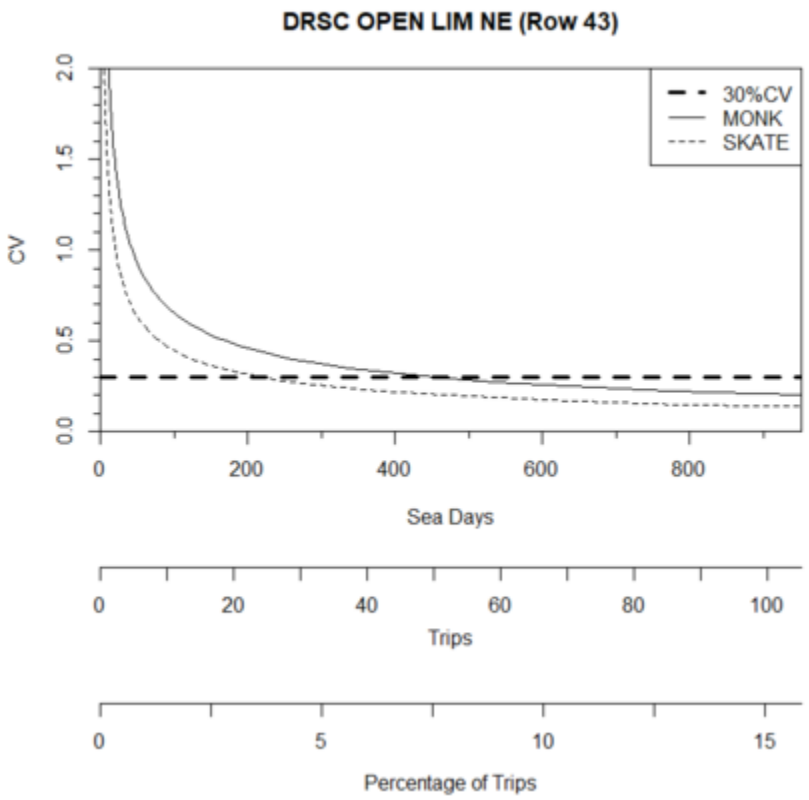

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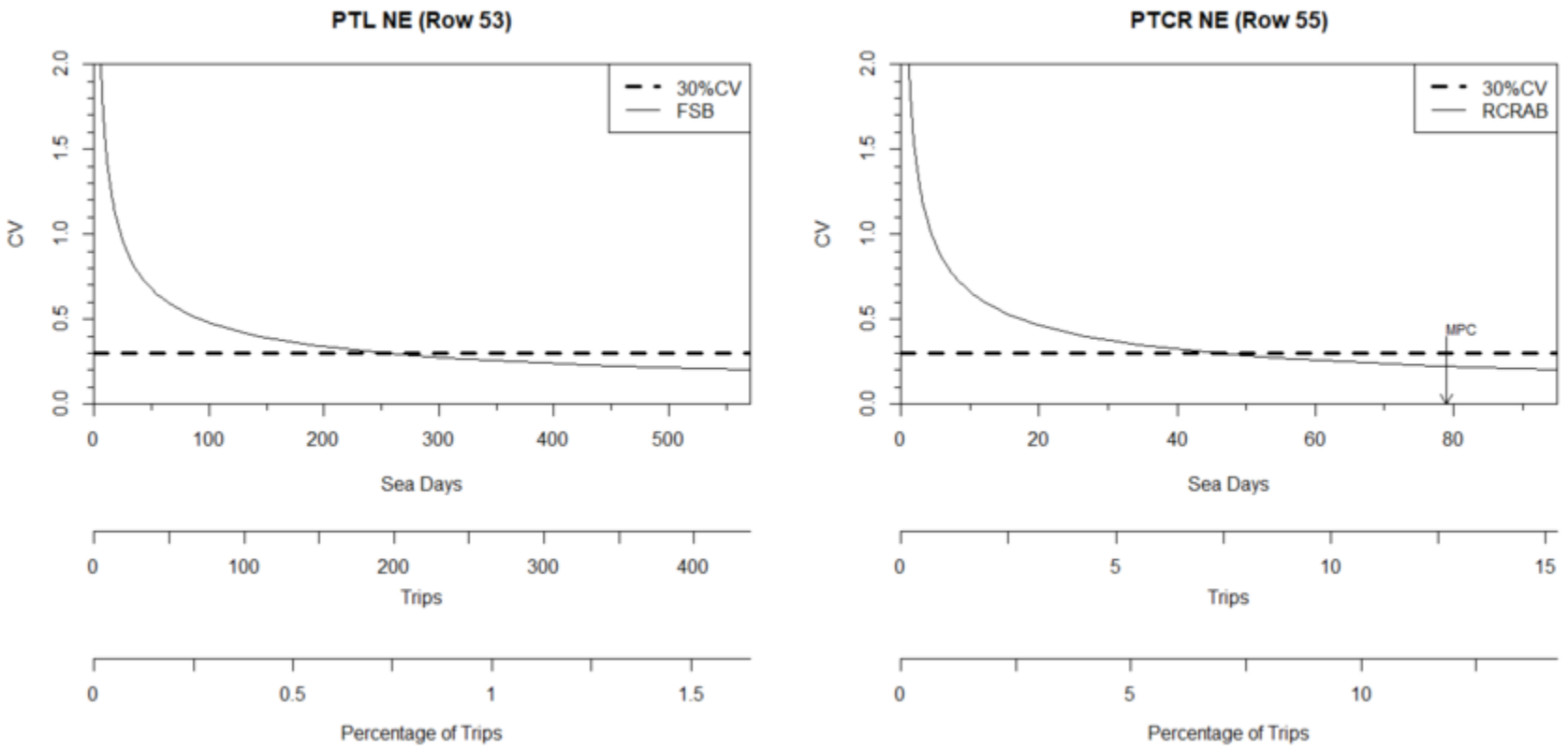

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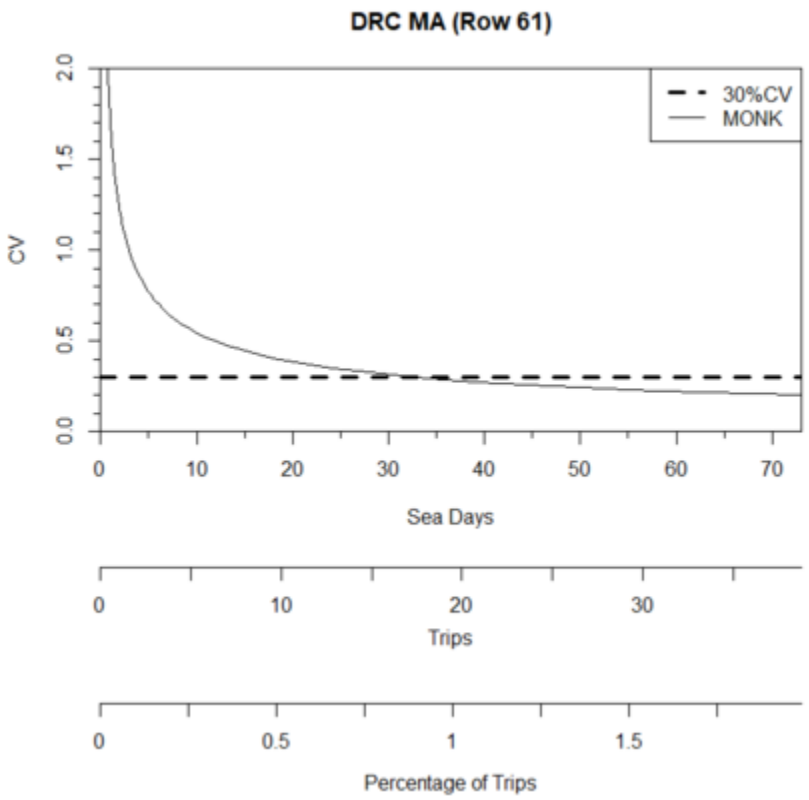

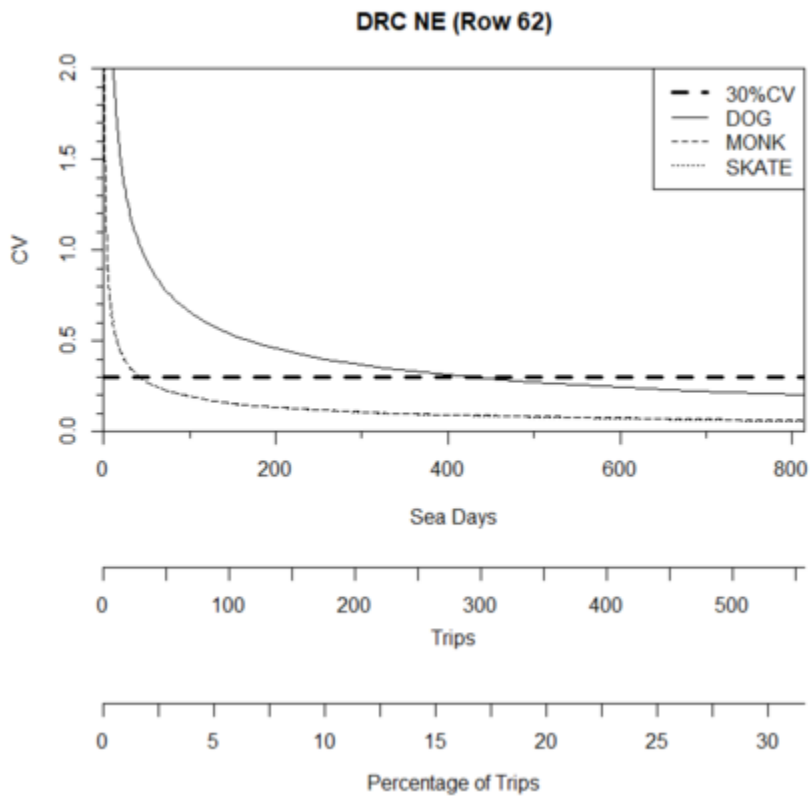

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Appendix Table 1. The number of fleets used in 2020 analyses and reported in the tables of this report.

62 fleets uniquely identified in Tables 2 & 3

- 23 fleets with no observer coverage
  - discard estimation not conducted
  - pilot fleet designation for sample size analysis
  - 8 confidential fleets (Rows 12, 16, 17, 23, 44, 46, 57, 59)
    - aggregated into "Confidential fleets" in Tables 4 & 5
  - 15 nonconfidential fleets
- 2 fleets with sparse observer coverage
  - discard estimation conducted
  - pilot fleet designation for sample size analysis
  - 1 confidential fleet (Row 14)
    - aggregated into "Confidential fleets" in Tables 4 & 5
  - 1 nonconfidential fleet
- 37 fleets with sufficient observer coverage
  - discard estimation conducted
  - variance of discard used for sample size analysis
  - nonpilot fleets
  - 2 confidential fleets (Rows 13 and 15)
    - aggregated into "Confidential Fleets" in Tables 4 & 5
  - 35 nonconfidential fleets

Other minor fleets

- not uniquely identified
- aggregated into "Other minor fleets" in Tables 4 & 5

Appendix Table 2. Discard reason categories used in Appendix Tables 3A and 3B and the associated discard fish dispositions. Fish disposition descriptions taken directly from the Observer Database System.

Discard Reason Category	FISH DISPOSITIION Code	FISH DISPOSITIION Description
No Market	001	NO MARKET, REASON NOT SPECIFIED
	002	NO MARKET, TOO SMALL
	003	NO MARKET, TOO LARGE
	005	NO MARKET, WONT KEEP UNTIL TRIP END
	006	NO MARKET, BUT RETAINED BY VESSEL FOR ALTERNATE PROGRAM
	007	NO MARKET, BUT RETAINED FOR OBSERVER FOR SCIENTIFIC PURPOSES
	008	NO MARKET, BROUGHT ONBOARD ONLY FOR THE PURPOSE OF OBSERVER SAMPLING
Regulation (Size)	012	REGULATIONS PROHIBIT RETENTION, TOO SMALL
	013	REGULATIONS PROHIBIT RETENTION, TOO LARGE
Regulation (Quota)	004	NO MARKET, QUOTA FILLED
	014	REGULATIONS PROHIBIT RETENTION, QUOTA FILLED
	015	REGULATIONS PROHIBIT RETENTION, NO QUOTA IN AREA
	025	REGULATIONS PROHIBIT ANY RETENTION
Regulation (Other)	009	DISCARDED, FEMALE
	011	REGULATIONS PROHIBIT RETENTION, REASON NOT SPECIFIED
	022	REGULATIONS PROHIBIT RETENTION, V-NOTCHED
	023	REGULATIONS PROHIBIT RETENTION, SOFT-SHELL
	024	REGULATIONS PROHIBIT RETENTION, WITH EGGS
Poor Quality	030	POOR QUALITY, GREY MEAT/PARASITES OBSERVED
	031	POOR QUALITY, REASON NOT SPECIFIED
	032	POOR QUALITY, SANDFLEA DAMAGE
	033	POOR QUALITY, SEAL DAMAGE
	034	POOR QUALITY, SHARK DAMAGE
	035	POOR QUALITY, CETACEAN DAMAGE
	036	POOR QUALITY, HAGFISH DAMAGE
	037	POOR QUALITY, SHELL DISEASE
	038	POOR QUALITY, GEAR DAMAGE
Other	000	DISCARDED, UNKNOWN REASON
	040	NOT BROUGHT ON BOARD, OPERATIONAL DISCARDS
	041	NOT BROUGHT ON BOARD, REASON NOT SPECIFIED
	042	NOT BROUGHT ON BOARD, GEAR DAMAGE PREVENTED CAPTURE
	043	NOT BROUGHT ON BOARD, FELL OUT/OFF OF GEAR
	044	NOT BROUGHT ON BOARD, CONSIDERED TO HAVE NO MARKET VALUE
	045	NOT BROUGHT ON BOARD, SAFETY REASON
	046	NOT BROUGHT ON BOARD, MECHANICAL FAILURE
	047	NOT BROUGHT ON BOARD, SPINY DOG CLOGGING PUMP
	048	NOT BROUGHT ON BOARD, VESSEL CAPACITY FILLED
	049	NOT BROUGHT ON BOARD, NOT ENOUGH FISH TO PUMP ABOARD
	052	INCIDENTAL TAKE (MAMMAL, SEA TURTLE, SEA BIRD)
	053	DEBRIS
	054	EMPTY SHELLS
	062	UPGRADED
	063	RETAINING ONLY CERTAIN SIZE BETTER PRICE TRIP QUOTA IN EFFECT
	064	RETAINING ONLY CERTAIN SIZE FOR BEST PRICE DUE TO PRICE DIFFERENCE
	070	NOT BROUGHT ON BOARD, QUALITY OF FISH
	071	NOT BROUGHT ON BOARD, CLOGGED PUMP OTHER
	099	DISCARDED, OTHER

Note: Fish disposition codes “039” = POOR QUALITY, PREVIOUSLY DISCARDED and “090” = DISCARDED BY OBSERVER, INTENDED KEPT CATCH have been excluded from this report.

Appendix Table 3A. Estimated discards (live lb) and percentage by discard reason category for 14 species groups, based on July 2018 through June 2019 data.

Species Group: ATLANTIC SALMON *(Salmo salar) No Discards*

Species Group: BLUEFISH *(Pomatomus saltatrix)*

Fleet						Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
39 Other fleets filtered out						67,013	36.5	11.3	1.1	0.0	49.3	1.8	100.0
					Total	67,013	36.5	11.3	1.1	0.0	49.3	1.8	100.0

Species Group: FLUKE *(Paralichthys dentatus)* - SCUP *(Stenotomus chrysops)* - BLACK SEA BASS *(Centropristis striata)*

Fleet						Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	2,437,227	19.8	51.7	19.7	0.3	0.1	8.5	100.0
6	Otter Trawl	OPEN	all	MA	lg	549,632	25.6	41.7	27.5	0.0	0.5	4.8	100.0
7	Otter Trawl	OPEN	all	NE	sm	3,509,905	24.5	44.3	23.4	0.2	0.1	7.5	100.0
8	Otter Trawl	OPEN	all	NE	lg	1,251,031	33.3	36.7	24.6	0.4	0.0	5.0	100.0
53	Pots and Traps, Lobster	OPEN	all	NE	all	360,183	0.0	0.0	100.0	0.0	0.0	0.0	100.0
34 Other fleets filtered out						1,150,790	45.1	21.0	28.0	0.5	2.8	2.7	100.0
					Total	9,258,768	26.1	40.5	26.4	0.2	0.4	6.4	100.0

See text for fleet abbreviations.

Appendix Table 3A, continued. Estimated discards (live lb) and percentage by discard reason category for 14 species groups, based on July 2018 through June 2019 data.

Species Group: HERRING, ATLANTIC *(Clupea harengus)*

Fleet						Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
39 Other fleets filtered out						201,646	76.8	0.0	20.4	0.0	0.1	2.6	100.0
					Total	201,646	76.8	0.0	20.4	0.0	0.1	2.6	100.0

Species Group: LARGE MESH GROUNDFISH

Fleet						Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	272,754	31.6	3.1	64.2	1.2	0.0	0.0	100.0
7	Otter Trawl	OPEN	all	NE	sm	691,597	19.4	6.7	67.0	3.1	0.0	3.9	100.0
8	Otter Trawl	OPEN	all	NE	lg	1,843,406	6.1	71.3	20.1	0.0	0.6	1.9	100.0
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	371,651	0.1	98.7	0.9	0.0	0.2	0.2	100.0
39	Dredge, Scallop	AA	LIM	NE	all	461,950	82.4	0.0	17.6	0.0	0.0	0.0	100.0
34 Other fleets filtered out						1,005,460	37.2	17.8	35.8	0.3	8.0	0.9	100.0
					Total	4,646,818	23.4	41.2	31.3	0.6	2.0	1.5	100.0

See text for fleet abbreviations.

Appendix Table 3A, continued. Estimated discards (live lb) and percentage by discard reason category for 14 species groups, based on July 2018 through June 2019 data.

Species Group: MONKFISH *(Lophius americanus)*

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	318,358	38.3	49.7	9.2	0.0	0.0	2.7	100.0
6	Otter Trawl	OPEN	all	MA	lg	440,330	14.9	33.1	46.2	0.0	0.0	5.7	100.0
8	Otter Trawl	OPEN	all	NE	lg	1,014,637	11.4	86.0	2.2	0.0	0.0	0.3	100.0
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	868,863	0.4	2.0	0.0	0.0	95.1	2.5	100.0
38	Dredge, Scallop	AA	LIM	MA	all	498,140	97.7	2.3	0.0	0.0	0.0	0.0	100.0
39	Dredge, Scallop	AA	LIM	NE	all	6,707,829	97.5	1.5	0.3	0.0	0.4	0.3	100.0
42	Dredge, Scallop	OPEN	LIM	MA	all	581,692	79.4	20.1	0.4	0.0	0.1	0.0	100.0
43	Dredge, Scallop	OPEN	LIM	NE	all	4,389,165	98.7	0.7	0.0	0.0	0.7	0.0	100.0
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	244,396	55.1	7.8	37.1	0.0	0.0	0.0	100.0
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	360,859	55.7	0.0	43.5	0.8	0.0	0.0	100.0
29 Other fleets filtered out						743,203	47.5	31.5	9.0	0.6	9.1	2.2	100.0
					Total	16,167,473	79.3	10.6	3.7	0.0	5.9	0.6	100.0

Species Group: RED DEEPSEA CRAB *(Chaceon quinquedens)*

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
55	Pots and Traps, Crab	OPEN	all	NE	all	1,003,718	58.8	0.0	0.0	37.7	3.2	0.3	100.0
38 Other fleets filtered out						63,259	54.5	0.0	0.0	39.5	6.0	0.0	100.0
					Total	1,066,977	58.5	0.0	0.0	37.8	3.4	0.2	100.0

See text for fleet abbreviations.

Appendix Table 3A, continued. Estimated discards (live lb) and percentage by discard reason category for 14 species groups, based on July 2018 through June 2019 data.

Species Group: SEA SCALLOP *(Placopecten magellanicus)*

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
39	Dredge, Scallop	AA	LIM	NE	all	18,797,139	67.9	0.0	4.3	0.0	19.6	8.1	100.0
38 Other fleets filtered out						10,004,559	70.3	0.0	19.2	0.2	8.1	2.3	100.0
					Total	28,801,698	68.7	0.0	9.5	0.1	15.6	6.1	100.0

Species Group: SKATE COMPLEX (Rajidae)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	4,283,838	90.0	0.6	8.0	0.5	0.0	0.9	100.0
6	Otter Trawl	OPEN	all	MA	lg	4,359,245	83.4	0.1	15.6	0.0	0.0	0.9	100.0
7	Otter Trawl	OPEN	all	NE	sm	1,898,014	82.2	0.2	16.2	0.5	0.0	0.9	100.0
8	Otter Trawl	OPEN	all	NE	lg	13,091,698	67.6	0.4	26.8	0.1	0.0	5.0	100.0
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	1,386,801	22.8	2.6	41.5	0.0	31.3	1.7	100.0
38	Dredge, Scallop	AA	LIM	MA	all	916,452	99.6	0.0	0.1	0.0	0.4	0.0	100.0
39	Dredge, Scallop	AA	LIM	NE	all	12,020,827	99.3	0.0	0.7	0.0	0.1	0.0	100.0
40	Dredge, Scallop	OPEN	GEN	MA	all	1,175,344	92.8	0.0	7.2	0.0	0.0	0.0	100.0
42	Dredge, Scallop	OPEN	LIM	MA	all	1,636,434	100.0	0.0	0.0	0.0	0.0	0.0	100.0
43	Dredge, Scallop	OPEN	LIM	NE	all	3,868,465	93.6	0.0	6.3	0.0	0.0	0.0	100.0
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	1,290,948	98.8	0.0	1.2	0.0	0.0	0.0	100.0
28 Other fleets filtered out						2,280,317	88.6	0.0	10.2	0.1	0.6	0.5	100.0
					Total	48,208,383	84.4	0.3	12.6	0.1	1.0	1.6	100.0

See text for fleet abbreviations.

Appendix Table 3A, continued. Estimated discards (live lb) and percentage by discard reason category for 14 species groups, based on July 2018 through June 2019 data.

Species Group: SMALL MESH GROUNDFISH

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	1,158,465	96.3	0.3	0.6	0.0	0.3	2.5	100.0
7	Otter Trawl	OPEN	all	NE	sm	3,110,803	96.2	1.3	0.9	0.0	0.7	1.0	100.0
8	Otter Trawl	OPEN	all	NE	lg	368,176	96.7	1.7	0.6	0.0	1.1	0.0	100.0
39	Dredge, Scallop	AA	LIM	NE	all	487,077	100.0	0.0	0.0	0.0	0.0	0.0	100.0
35 Other fleets filtered out						370,680	97.3	0.0	0.7	0.0	2.0	0.0	100.0
					Total	5,495,201	96.6	0.9	0.7	0.0	0.6	1.1	100.0

Species Group: SPINY DOGFISH *(Squalus acanthias)*

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
2	Longline, Bottom	OPEN	all	NE	all	235,090	52.4	0.4	8.7	0.0	0.3	38.1	100.0
5	Otter Trawl	OPEN	all	MA	sm	3,318,077	90.4	0.0	6.7	0.0	0.0	2.9	100.0
6	Otter Trawl	OPEN	all	MA	lg	650,889	99.1	0.0	0.9	0.0	0.0	0.0	100.0
7	Otter Trawl	OPEN	all	NE	sm	2,353,302	95.8	0.0	3.4	0.0	0.0	0.8	100.0
8	Otter Trawl	OPEN	all	NE	lg	2,416,117	99.0	0.0	1.0	0.0	0.0	0.0	100.0
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	124,537	35.2	0.0	37.6	0.0	27.2	0.0	100.0
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	617,762	96.0	0.0	2.9	0.0	1.1	0.0	100.0
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	181,884	96.0	0.0	1.4	0.0	2.5	0.0	100.0
39	Dredge, Scallop	AA	LIM	NE	all	207,151	99.9	0.0	0.0	0.0	0.1	0.0	100.0
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	418,404	100.0	0.0	0.0	0.0	0.0	0.0	100.0
29 Other fleets filtered out						520,350	90.5	0.8	5.4	0.3	3.0	0.0	100.0
					Total	11,043,563	93.5	0.0	4.1	0.0	0.6	1.8	100.0

See text for fleet abbreviations.

Appendix Table 3A, continued. Estimated discards (live lb) and percentage by discard reason category for 14 species groups, based on July 2018 through June 2019 data.

Species Group: SQUID *(Doryteuthis [Amerigo] pealeii, Illex illecebrosus)* - BUTTERFISH *(Peprilus triacanthus)* - MACKEREL *(Scomber scombrus)*

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	3,842,924	85.8	2.2	9.3	0.0	0.9	1.8	100.0
7	Otter Trawl	OPEN	all	NE	sm	5,289,296	68.4	1.5	10.7	0.0	2.5	16.9	100.0
37 Other fleets filtered out						829,821	93.0	0.1	6.5	0.0	0.4	0.1	100.0
					Total	9,962,041	77.2	1.6	9.8	0.0	1.7	9.7	100.0

Species Group: SURFCLAM *(Spisula solidissima)* - OCEAN QUAHOG *(Arctica islandica)*

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
39 Other fleets filtered out						1,483,588	26.4	1.3	67.7	0.0	4.5	0.0	100.0
					Total	1,483,588	26.4	1.3	67.7	0.0	4.5	0.0	100.0

Species Group: TILEFISH

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
39 Other fleets filtered out						17,780	30.4	19.0	16.5	0.9	12.2	21.1	100.0
					Total	17,780	30.4	19.0	16.5	0.9	12.2	21.1	100.0

See text for fleet abbreviations.

Appendix Table 3B. Estimated discards (live lb) and percentage by discard reason category for 23 individual species that compose the 14 species groups, based on July 2018 through June 2019 data.

Species: BLACK SEA BASS *(Centropristis striata)*

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	686,242	9.6	38.2	37.0	0.2	0.1	14.8	100.0
7	Otter Trawl	OPEN	all	NE	sm	590,438	2.5	19.6	70.4	0.2	0.0	7.3	100.0
8	Otter Trawl	OPEN	all	NE	lg	100,340	7.6	24.0	57.2	0.1	0.0	11.1	100.0
48	Pots and Traps, Fish	OPEN	all	MA	all	143,018	0.0	99.7	0.0	0.0	0.3	0.0	100.0
49	Pots and Traps, Fish	OPEN	all	NE	all	111,393	4.0	30.8	58.0	0.0	0.0	7.2	100.0
53	Pots and Traps, Lobster	OPEN	all	NE	all	268,289	0.0	0.0	100.0	0.0	0.0	0.0	100.0
33 Other fleets filtered out						169,848	11.3	37.3	48.2	0.1	0.3	2.8	100.0
					Total	2,069,569	5.4	31.0	55.2	0.1	0.1	8.2	100.0

Species: FLUKE *(Paralichthys dentatus)*

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	443,829	5.5	31.7	54.1	1.3	0.1	7.2	100.0
6	Otter Trawl	OPEN	all	MA	lg	217,586	2.0	33.9	53.6	0.0	1.2	9.3	100.0
7	Otter Trawl	OPEN	all	NE	sm	365,530	10.8	21.1	58.8	1.1	0.0	8.2	100.0
8	Otter Trawl	OPEN	all	NE	lg	468,242	2.1	29.1	58.6	1.1	0.0	9.1	100.0
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	120,668	7.4	0.2	54.2	3.7	24.3	10.3	100.0
39	Dredge, Scallop	AA	LIM	NE	all	319,673	82.4	0.0	17.6	0.0	0.0	0.0	100.0
33 Other fleets filtered out						299,733	53.7	12.8	29.5	0.3	0.5	3.2	100.0
					Total	2,235,261	22.9	20.9	47.3	0.9	1.5	6.6	100.0

See text for fleet abbreviations.

Appendix Table 3B, continued. Estimated discards (live lb) and percentage by discard reason category for 23 individual species that compose the 14 species groups, based on July 2018 through June 2019 data.

Species: SCUP *(Stenotomus chrysops)*

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	1,307,155	28.5	63.5	2.0	0.0	0.1	6.0	100.0
7	Otter Trawl	OPEN	all	NE	sm	2,553,936	33.5	55.8	3.2	0.0	0.1	7.4	100.0
8	Otter Trawl	OPEN	all	NE	lg	682,450	55.1	43.0	0.1	0.0	0.0	1.8	100.0
36 Other fleets filtered out						410,397	49.3	28.9	21.2	0.0	0.2	0.4	100.0
					Total	4,953,937	36.5	53.8	3.9	0.0	0.1	5.7	100.0

Species: AMERICAN PLAICE *(Hippoglossoides platessoides)*

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
7	Otter Trawl	OPEN	all	NE	sm	35,193	5.4	5.5	48.5	0.8	0.7	39.1	100.0
8	Otter Trawl	OPEN	all	NE	lg	105,617	0.0	98.1	0.0	0.0	1.8	0.1	100.0
37 Other fleets filtered out						19,208	73.1	19.6	3.6	0.3	3.3	0.1	100.0
					Total	160,018	10.0	68.3	11.1	0.2	1.7	8.7	100.0

Species: ATLANTIC COD *(Gadus morhua)*

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
4	Hand Line	OPEN	all	NE	all	38,230	0.0	97.3	0.0	0.0	1.1	1.6	100.0
8	Otter Trawl	OPEN	all	NE	lg	15,968	0.0	97.3	0.0	0.0	0.2	2.5	100.0
53	Pots and Traps, Lobster	OPEN	all	NE	all	35,229	0.0	0.0	100.0	0.0	0.0	0.0	100.0
36 Other fleets filtered out						48,177	18.6	23.7	12.3	0.0	45.2	0.2	100.0
					Total	137,604	6.5	46.6	29.9	0.0	16.1	0.8	100.0

See text for fleet abbreviations.

Appendix Table 3B, continued. Estimated discards (live lb) and percentage by discard reason category for 23 individual species that compose the 14 species groups, based on July 2018 through June 2019 data.

Species: ATLANTIC HALIBUT *(Hippoglossus hippoglossus)*

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
4	Hand Line	OPEN	all	NE	all	13,015	0.0	0.0	100.0	0.0	0.0	0.0	100.0
8	Otter Trawl	OPEN	all	NE	lg	71,213	0.0	40.1	41.2	0.3	0.0	18.3	100.0
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	6,772	0.0	62.7	27.0	0.0	0.0	10.4	100.0
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	123,074	0.0	44.1	43.9	0.0	6.2	5.8	100.0
35 Other fleets filtered out						5,993	4.9	31.5	60.6	0.0	1.4	1.6	100.0
					Total	220,068	0.1	40.5	46.3	0.1	3.5	9.5	100.0

Species: ATLANTIC WOLFFISH *(Anarhichas lupus)*

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
2	Longline, Bottom	OPEN	all	NE	all	2,590	23.5	0.0	76.5	0.0	0.0	0.0	100.0
4	Hand Line	OPEN	all	NE	all	1,479	0.0	0.0	100.0	0.0	0.0	0.0	100.0
8	Otter Trawl	OPEN	all	NE	lg	30,541	11.9	0.0	88.1	0.0	0.0	0.0	100.0
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	2,305	12.7	0.0	87.3	0.0	0.0	0.0	100.0
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	1,259	0.0	0.0	100.0	0.0	0.0	0.0	100.0
53	Pots and Traps, Lobster	OPEN	all	NE	all	6,868	0.0	0.0	100.0	0.0	0.0	0.0	100.0
33 Other fleets filtered out						1,473	50.4	0.0	49.6	0.0	0.0	0.0	100.0
					Total	46,515	11.4	0.0	88.6	0.0	0.0	0.0	100.0

Appendix Table 3B, continued. Estimated discards (live lb) and percentage by discard reason category for 23 individual species that compose the 14 species groups, based on July 2018 through June 2019 data.

Species: HADDOCK *(Melanogrammus aeglefinus)*

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
8	Otter Trawl	OPEN	all	NE	lg	763,617	1.2	98.1	0.0	0.0	0.7	0.0	100.0
20	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	354,662	0.0	100.0	0.0	0.0	0.0	0.0	100.0
37 Other fleets filtered out						305,295	25.1	9.8	59.3	4.6	0.8	0.5	100.0
					Total	1,423,575	6.0	79.6	12.7	1.0	0.5	0.1	100.0

Species: OCEAN POUT *(Zoarces americanus)*

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	42,615	76.4	0.0	23.6	0.0	0.0	0.0	100.0
7	Otter Trawl	OPEN	all	NE	sm	26,076	22.7	0.0	57.3	0.0	0.0	20.0	100.0
8	Otter Trawl	OPEN	all	NE	lg	64,546	67.2	0.0	32.0	0.0	0.0	0.8	100.0
39	Dredge, Scallop	AA	LIM	NE	all	5,842	84.5	0.0	15.5	0.0	0.0	0.0	100.0
53	Pots and Traps, Lobster	OPEN	all	NE	all	37,386	0.0	0.0	100.0	0.0	0.0	0.0	100.0
34 Other fleets filtered out						8,081	41.0	0.0	59.0	0.0	0.0	0.0	100.0
					Total	184,545	48.8	0.0	48.1	0.0	0.0	3.1	100.0

Species: POLLOCK *(Pollachius virens)*

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
8	Otter Trawl	OPEN	all	NE	lg	122,422	0.0	98.8	0.0	0.0	1.2	0.0	100.0
38 Other fleets filtered out						116,772	0.8	59.8	2.7	0.3	36.4	0.0	100.0
					Total	239,194	0.4	79.8	1.3	0.2	18.3	0.0	100.0

See text for fleet abbreviations.

Appendix Table 3B, continued. Estimated discards (live lb) and percentage by discard reason category for 23 individual species that compose the 14 species groups, based on July 2018 through June 2019 data.

Species: REDFISH *(Sebastes fasciatus)*

Fleet						Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
39 Other fleets filtered out						156,690	37.9	52.3	0.5	0.0	0.9	8.4	100.0
Total						156,690	37.9	52.3	0.5	0.0	0.9	8.4	100.0

Species: WHITE HAKE *(Urophycis tenuis)*

Fleet						Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
39 Other fleets filtered out						41,070	64.2	9.9	2.1	0.0	9.7	14.2	100.0
Total						41,070	64.2	9.9	2.1	0.0	9.7	14.2	100.0

Species: WINDOWPANE FLOUNDER *(Scophthalmus aquosus)*

Fleet						Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	96,297	35.7	0.1	62.5	1.7	0.0	0.0	100.0
6	Otter Trawl	OPEN	all	MA	lg	78,535	19.2	0.0	79.7	1.0	0.0	0.0	100.0
7	Otter Trawl	OPEN	all	NE	sm	102,944	11.2	0.0	88.6	0.2	0.0	0.0	100.0
8	Otter Trawl	OPEN	all	NE	lg	308,539	5.9	0.0	94.0	0.0	0.0	0.0	100.0
39	Dredge, Scallop	AA	LIM	NE	all	292,355	77.6	0.0	22.4	0.0	0.0	0.0	100.0
41	Dredge, Scallop	OPEN	GEN	NE	all	35,756	23.9	0.0	76.1	0.0	0.0	0.0	100.0
43	Dredge, Scallop	OPEN	LIM	NE	all	51,110	85.0	0.0	15.0	0.0	0.0	0.0	100.0
32 Other fleets filtered out						46,405	66.2	0.0	33.7	0.0	0.1	0.0	100.0
Total						1,011,940	38.4	0.0	61.3	0.3	0.0	0.0	100.0

Appendix Table 3B, continued. Estimated discards (live lb) and percentage by discard reason category for 23 individual species that compose the 14 species groups, based on July 2018 through June 2019 data.

Species: WINTER FLOUNDER *(Pseudopleuronectes americanus)*

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	75,028	9.7	9.4	80.7	0.3	0.0	0.0	100.0
7	Otter Trawl	OPEN	all	NE	sm	200,156	6.9	3.1	88.5	0.7	0.0	0.8	100.0
8	Otter Trawl	OPEN	all	NE	lg	57,690	2.4	65.1	32.2	0.0	0.1	0.2	100.0
39	Dredge, Scallop	AA	LIM	NE	all	105,854	95.9	0.0	4.1	0.0	0.0	0.0	100.0
43	Dredge, Scallop	OPEN	LIM	NE	all	166,400	92.5	0.0	7.5	0.0	0.0	0.0	100.0
34 Other fleets filtered out						37,587	33.2	1.6	58.8	6.0	0.3	0.0	100.0
					Total	642,716	45.2	8.0	45.9	0.6	0.0	0.3	100.0

Species: WITCH FLOUNDER *(Glyptocephalus cynoglossus)*

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
7	Otter Trawl	OPEN	all	NE	sm	69,760	23.7	3.0	53.8	8.2	0.0	11.3	100.0
8	Otter Trawl	OPEN	all	NE	lg	98,724	1.6	86.0	7.3	0.0	1.2	3.9	100.0
43	Dredge, Scallop	OPEN	LIM	NE	all	30,229	99.1	0.0	0.5	0.0	0.0	0.3	100.0
36 Other fleets filtered out						38,161	67.7	3.2	28.8	0.0	0.1	0.3	100.0
					Total	236,873	31.2	37.2	23.6	2.4	0.5	5.0	100.0

Appendix Table 3B, continued. Estimated discards (live lb) and percentage by discard reason category for 23 individual species that compose the 14 species groups, based on July 2018 through June 2019 data.

Species: YELLOWTAIL FLOUNDER *(Limanda ferruginea)*

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
7	Otter Trawl	OPEN	all	NE	sm	31,334	7.0	4.7	87.2	0.0	0.0	1.1	100.0
8	Otter Trawl	OPEN	all	NE	lg	74,259	0.9	98.5	0.3	0.0	0.2	0.0	100.0
39	Dredge, Scallop	AA	LIM	NE	all	10,103	55.0	0.0	45.0	0.0	0.0	0.0	100.0
41	Dredge, Scallop	OPEN	GEN	NE	all	13,614	39.8	3.3	56.9	0.0	0.0	0.0	100.0
35 Other fleets filtered out						16,701	34.0	9.4	52.5	0.0	4.0	0.0	100.0
					Total	146,011	13.4	52.5	33.3	0.0	0.6	0.3	100.0

Species: OFFSHORE HAKE *(Merluccius albidus)*

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	2,842	98.0	2.0	0.0	0.0	0.0	0.0	100.0
7	Otter Trawl	OPEN	all	NE	sm	13,712	100.0	0.0	0.0	0.0	0.0	0.0	100.0
37 Other fleets filtered out						104	100.0	0.0	0.0	0.0	0.0	0.0	100.0
					Total	16,658	99.7	0.3	0.0	0.0	0.0	0.0	100.0

Species: RED HAKE *(Urophycis chuss)*

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	687,328	95.9	0.1	0.8	0.0	0.2	3.0	100.0
7	Otter Trawl	OPEN	all	NE	sm	1,361,994	98.5	0.2	0.5	0.0	0.3	0.6	100.0
8	Otter Trawl	OPEN	all	NE	lg	136,416	99.0	0.4	0.6	0.0	0.0	0.0	100.0
39	Dredge, Scallop	AA	LIM	NE	all	472,785	100.0	0.0	0.0	0.0	0.0	0.0	100.0
43	Dredge, Scallop	OPEN	LIM	NE	all	109,769	99.9	0.0	0.0	0.0	0.0	0.1	100.0
34 Other fleets filtered out						121,704	97.3	0.0	1.9	0.0	0.8	0.0	100.0
					Total	2,889,995	98.1	0.1	0.5	0.0	0.2	1.0	100.0

See text for fleet abbreviations.

Appendix Table 3B, continued. Estimated discards (live lb) and percentage by discard reason category for 23 individual species that compose the 14 species groups, based on July 2018 through June 2019 data.

Species: SILVER HAKE *(Merluccius bilinearis)*

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	468,295	97.2	0.8	0.2	0.0	0.5	1.3	100.0
7	Otter Trawl	OPEN	all	NE	sm	1,735,097	94.5	2.2	1.2	0.0	1.0	1.2	100.0
8	Otter Trawl	OPEN	all	NE	lg	231,731	95.3	2.5	0.5	0.0	1.7	0.0	100.0
36 Other fleets filtered out						153,425	95.7	0.0	0.1	0.0	4.2	0.0	100.0
					Total	2,588,547	95.1	1.8	0.9	0.0	1.1	1.1	100.0

Species: ATLANTIC MACKEREL *(Scomber scombrus)*

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	370,316	93.7	6.0	0.0	0.0	0.3	0.0	100.0
7	Otter Trawl	OPEN	all	NE	sm	296,937	95.9	3.9	0.1	0.0	0.0	0.1	100.0
37 Other fleets filtered out						34,753	88.7	0.0	10.8	0.0	0.1	0.0	99.6
					Total	702,006	94.4	4.8	0.6	0.0	0.2	0.1	100.0

Species: BUTTERFISH (*Peprilus triacanthus*)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	1,151,094	78.8	0.0	17.8	0.0	0.0	3.4	100.0
7	Otter Trawl	OPEN	all	NE	sm	1,869,612	43.5	0.0	20.6	0.0	3.0	32.8	100.0
37 Other fleets filtered out						164,165	88.8	0.0	10.1	0.0	0.0	0.1	99.0
					Total	3,184,871	58.6	0.0	19.1	0.0	1.8	20.5	99.9

See text for fleet abbreviations.

Appendix Table 3B, continued. Estimated discards (live lb) and percentage by discard reason category for 23 individual species that compose the 14 species groups, based on July 2018 through June 2019 data.

Species: LONGFIN INSHORE SQUID (*Doryteuthis [Amerigo] pealeii*)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
7	Otter Trawl	OPEN	all	NE	sm	435,662	84.5	1.2	0.0	0.0	13.7	0.7	100.0
38 Other fleets filtered out						513,352	92.7	2.5	0.1	0.0	3.8	0.9	100.0
					Total	949,014	88.9	1.9	0.0	0.0	8.3	0.8	100.0

Species: NORTHERN SHORTFIN SQUID (*Illex illecebrosus*)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	1,889,645	42.9	1.2	55.9	0.0	0.0	0.0	100.0
7	Otter Trawl	OPEN	all	NE	sm	2,587,037	85.4	14.6	0.0	0.0	0.0	0.0	100.0
37 Other fleets filtered out						534,295	2.9	49.7	3.1	0.0	0.0	28.0	83.6
					Total	5,010,978	60.6	13.3	21.4	0.0	0.0	3.0	98.3

Species: BLUELINE TILEFISH (*Caulolatilus microps*)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
6	Otter Trawl	OPEN	all	MA	lg	2,296	98.5	0.0	1.5	0.0	0.0	0.0	100.0
38 Other fleets filtered out						4,530	19.4	50.8	8.6	2.8	5.9	4.5	91.9
					Total	6,826	46.0	33.7	6.2	1.8	3.9	3.0	94.7

Appendix Table 3B, continued. Estimated discards (live lb) and percentage by discard reason category for 23 individual species that compose the 14 species groups, based on July 2018 through June 2019 data.

Species: GOLDEN TILEFISH (*Lopholatilus chamaeleonticeps*)

Fleet						Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
39 Other fleets filtered out						10,944	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total						10,944	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix Table 4. Fleet abbreviations used in Figures 1A, 1B, 2, and 3. Fleets that were filtered out through the importance filter and fleets designated as in need of pilot coverage have been aggregated into "Other fleets."

Row	Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Fleet Abbreviation
1		Longline, Bottom	OPEN	all	MA	all	LLB MA (Row 1)
2		Longline, Bottom	OPEN	all	NE	all	LLB NE (Row 2)
3		Hand Line	OPEN	all	MA	all	HL MA (Row 3)
4		Hand Line	OPEN	all	NE	all	HL NE (Row 4)
5		Otter Trawl	OPEN	all	MA	sm	OT sm MA (Row 5)
6		Otter Trawl	OPEN	all	MA	lg	OT lg MA (Row 6)
7		Otter Trawl	OPEN	all	NE	sm	OT sm NE (Row 7)
8		Otter Trawl	OPEN	all	NE	lg	OT lg NE (Row 8)
9		Otter Trawl, Scallop	AA	GEN	MA	sm	OTSC AA GEN sm MA (Row 9)
10		Otter Trawl, Scallop	AA	GEN	MA	lg	OTSC AA GEN lg MA (Row 10)
11		Otter Trawl, Scallop	OPEN	GEN	MA	lg	OTSC OPEN GEN lg MA (Row 11)
12		Otter Trawl, Scallop	OPEN	GEN	NE	lg	OTSC OPEN GEN lg NE (Row 12)
13		Otter Trawl, Twin	OPEN	all	MA	sm	OTT sm MA (Row 13)
14		Otter Trawl, Twin	OPEN	all	MA	lg	OTT lg MA (Row 14)
15		Otter Trawl, Twin	OPEN	all	NE	sm	OTT sm NE (Row 15)
16		Otter Trawl, Ruhle	OPEN	all	MA	sm	OTR sm MA (Row 16)
17		Otter Trawl, Ruhle	OPEN	all	MA	lg	OTR lg MA (Row 17)
18		Otter Trawl, Ruhle	OPEN	all	NE	sm	OTR sm NE (Row 18)
19		Otter Trawl, Ruhle	OPEN	all	NE	lg	OTR lg NE (Row 19)
20		Otter Trawl, Haddock Separator	OPEN	all	NE	lg	OTH lg NE (Row 20)
21		Otter Trawl, Shrimp	OPEN	all	MA	sm	OTSH sm MA (Row 21)
22		Otter Trawl, Shrimp	OPEN	all	NE	sm	OTSH sm NE (Row 22)
23		Otter Trawl, Other	OPEN	all	MA	sm	OTO sm MA (Row 23)
24		Otter Trawl, Other	OPEN	all	NE	sm	OTO sm NE (Row 24)
25		Otter Trawl, Other	OPEN	all	NE	lg	OTO lg NE (Row 25)
26		Floating Trap	OPEN	all	MA	all	FT MA (Row 26)
27		Floating Trap	OPEN	all	NE	all	FT NE (Row 27)
28		Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	GN sm MA (Row 28)
29		Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	GN lg MA (Row 29)
30		Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	GN xlg MA (Row 30)
31		Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	GN sm NE (Row 31)
32		Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	GN lg NE (Row 32)
33		Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	GN xlg NE (Row 33)
34		Purse Seine	OPEN	all	MA	all	PS MA (Row 34)
35		Purse Seine	OPEN	all	NE	all	PS NE (Row 35)
36		Dredge, Scallop	AA	GEN	MA	all	DRSC AA GEN MA (Row 36)
37		Dredge, Scallop	AA	GEN	NE	all	DRSC AA GEN NE (Row 37)
38		Dredge, Scallop	AA	LIM	MA	all	DRSC AA LIM MA (Row 38)
39		Dredge, Scallop	AA	LIM	NE	all	DRSC AA LIM NE (Row 39)
40		Dredge, Scallop	OPEN	GEN	MA	all	DRSC OPEN GEN MA (Row 40)
41		Dredge, Scallop	OPEN	GEN	NE	all	DRSC OPEN GEN NE (Row 41)
42		Dredge, Scallop	OPEN	LIM	MA	all	DRSC OPEN LIM MA (Row 42)
43		Dredge, Scallop	OPEN	LIM	NE	all	DRSC OPEN LIM NE (Row 43)
44		Danish Seine	OPEN	all	MA	all	DS MA (Row 44)
45		Trawl, Midwater Paired&Single	all	all	NE	sm	TMW all sm NE (Row 45)
46		Trawl, Midwater Paired&Single	OPEN	all	MA	sm	TMW OPEN sm MA (Row 46)

Appendix Table 4, continued. Fleet abbreviations used in Figures 1A, 1B, 2, and 3. Fleets that were filtered out through the importance filter and fleets designated as in need of pilot coverage have been aggregated into "Other fleets."

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Fleet Abbreviation
47	Pots and Traps, Other	OPEN	all	NE	all	PTO NE (Row 47)
48	Pots and Traps, Fish	OPEN	all	MA	all	PTF MA (Row 48)
49	Pots and Traps, Fish	OPEN	all	NE	all	PTF NE (Row 49)
50	Pots and Traps, Conch	OPEN	all	MA	all	PTC MA (Row 50)
51	Pots and Traps, Conch	OPEN	all	NE	all	PTC NE (Row 51)
52	Pots and Traps, Lobster	OPEN	all	MA	all	PTL MA (Row 52)
53	Pots and Traps, Lobster	OPEN	all	NE	all	PTL NE (Row 53)
54	Pots and Traps, Crab	OPEN	all	MA	all	PTCR MA (Row 54)
55	Pots and Traps, Crab	OPEN	all	NE	all	PTCR NE (Row 55)
56	Beam Trawl	OPEN	all	MA	sm	BT sm MA (Row 56)
57	Beam Trawl	OPEN	all	NE	lg	BT lg NE (Row 57)
58	Dredge, Other	OPEN	all	MA	all	DRO MA (Row 58)
59	Dredge, Other	OPEN	all	NE	all	DRO NE (Row 59)
60	Dredge, Urchin	OPEN	all	NE	all	DRU NE (Row 60)
61	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	DRC MA (Row 61)
62	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	DRC NE (Row 62)
	Other fleets filtered out					Other fleets

APPENDIX: EQUATIONS USED IN DISCARD ESTIMATION AND SAMPLE SIZE ANALYSES

Total discarded pounds for species *j* in fleet *h* (i.e., gear type, access area, trip category, region, and mesh group stratum combination) is defined as:

$$(1) \quad \hat{D}_{j,h} = \sum_{q=1}^{Q} K_{q,h} r_{c,j,h}$$

where

$$(2) \quad r_{c,j,h} = \frac{\sum_{q=1}^{Q} N_{q,h} \sum_{i=1}^{n_{q,h}} \frac{d_{j,i,q,h}}{n_{q,h}}}{\sum_{q=1}^{Q} N_{q,h} \sum_{i=1}^{n_{q,h}} \frac{k_{i,q,h}}{n_{q,h}}}$$

Where $\hat{D}_{j,h}$ is total discarded pounds for species *j* in fleet *h*; $K_{q,h}$ is vessel trip report (VTR) total kept pounds of all species in quarter *q* and fleet *h*; $r_{c,j,h}$ is the combined ratio of species *j* in fleet *h*; $d_{j,i,q,h}$ is discards of species *j* from trip *i* in quarter *q* and fleet *h*; $k_{i,q,h}$ is kept pounds of all species on trip *i* in quarter *q* and fleet *h*; $N_{q,h}$ is the number of VTR trips in quarter q and fleet *h*; $n_{q,h}$ is the number of observed trips in quarter *q* and fleet *h*. A fleet is defined by a gear type, access area, trip category, region, and mesh group combination. In Eq. 2 q denotes calendar quarters.

Variance of $\hat{D}_{j,h}$ for species *j* in fleet *h* is defined as:

$$(3) \quad V(\hat{D}_{j,h}) = \sum_{q=1}^{Q} K_{q,h}^2 \left(\frac{N_{q,h} - n_{q,h}}{n_{q,h} N_{q,h}} \right) \frac{1}{\left(\frac{\sum_{i=1}^{n_{q,h}} k_{i,q,h}}{n_{q,h}} \right)^2} \left[\frac{\sum_{i=1}^{n_{q,h}} \left(d_{j,i,q,h}^2 + \left(r_{c,j,h} \right)^2 k_{i,q,h}^2 - 2 r_{c,j,h}\, d_{j,i,q,h} k_{i,q,h} \right)}{n_{q,h} - 1} \right]$$

where $\hat{D}_{j,h}$ is total discarded pounds for species *j* in fleet *h*; $K_{q,h}$ is VTR total kept pounds of all species in quarter *q* and fleet *h*; $r_{c,j,h}$ is the combined ratio of species *j* in fleet *h*; $d_{j,i,q,h}$ is discards of species *j* from trip *i* in quarter *q* and fleet *h*; $k_{i,q,h}$ is kept pounds of all species on trip *i* in quarter *q* and fleet *h*; $N_{q,h}$ is the number of VTR trips in quarter *q* and fleet *h*; $n_{q,h}$ is the number of observed trips in quarter *q* and fleet *h*.

Standard Error of the discard estimate for species *j* in fleet *h* is defined as:

(4) $$SE(\hat{D}_{j,h}) = \sqrt{V(\hat{D}_{j,h})}$$

Coefficient of variation (CV) of $\hat{D}_{j,h}$ for species *j* in fleet *h* is defined as:

(5) $$CV(\hat{D}_{j,h}) = \frac{\sqrt{V(\hat{D}_{j,h})}}{\hat{D}_{j,h}}$$

Total discarded pounds of species *j* over all fleets, *h*, from 1 to *H* fleets, is defined as:

(6) $$\hat{D}_{T,j} = \sum_{h=1}^{H} \hat{D}_{j,h}$$

Variance of $\hat{D}_{T,j}$ for species *j* over all fleets is defined as:

(7) $$V(\hat{D}_{T,j}) = \sum_{h=1}^{H} V(\hat{D}_{j,h}) + \sum_{h=1}^{H} \sum_{k \neq h} Cov(\hat{D}_{j,h}, \hat{D}_{j,k})$$

where the covariance term equals zero (fleets are independent; nonoverlapping strata)

Coefficient of variation of $\hat{D}_{T,j}$ for species *j* over all fleets is defined as:

(8) $$CV(\hat{D}_{T,j}) = \frac{\sqrt{V(\hat{D}_{T,j})}}{\hat{D}_{T,j}}$$

The number of sea days and trips needed to achieve a 30% coefficient of variation (CV) is derived based on the variance of the total discards for species *j* in fleet *h* by using the combined ratio method and the d/k discard ratio (Eq. 3).

From Eq. 3, let

(9) $$\hat{S}^2_{j,q,h} = \left[\frac{\sum_{i=1}^{n_{q,h}} \left(d^2_{j,i,q,h} + \left(r_{c,j,h}\right)^2 k^2_{i,q,h} - 2 r_{c,j,h}\, d_{j,i,q,h} k_{i,q,h} \right)}{n_{q,h} - 1} \right]$$ and

(10) $$\delta_{q,h} = \frac{n_{q,h}}{\sum_{q=1}^{Q} n_{q,h}}$$

where $\delta_{q,h}$ is the fraction of the trips in quarter *q* in fleet *h*; $r_{c,j,h}$ is the combined annual ratio of species *j* in fleet *h*; $d_{j,i,q,h}$ is discards of species *j* from trip *i* in quarter *q* in fleet *h*; $k_{i,q,h}$ is kept pounds of all species on trip *i* in quarter *q* in fleet *h*; and $n_{q,h}$ is the number of observed trips in quarter *q* in fleet *h*. The $r_{c,j,h}$ in Eq. 9 is defined in Eq. 2 where the summation is over quarters within a given fleet defined by gear, region, access area, trip type, and so forth.

The number of trips necessary to achieve a 30% CV based on the variance of the composite annual total discards for species group *j* in fleet *h* is defined as:

$$(11)\quad \hat{T}D_{30\,j,h} = \frac{\sum_{q=1}^{Q}\left(\frac{K_{q,h}^2}{\bar{k}_{q,h}^2}\hat{S}_{j,q,h}^2\frac{1}{\delta_{q,h}}\right)}{(0.09)\hat{D}_{j,h}{}^2 + \frac{\sum_{q=1}^{Q}\frac{K_{q,h}^2}{\bar{k}_{q,h}^2}\hat{S}_{j,q,h}^2}{N_h}}$$

where $0.09 = 0.30^2$, the square of the 30% CV, the given precision level.

The number of sea days necessary to achieve a 30% CV based on the variance of the composite annual total discards for species group *j* in fleet *h* is defined as:

$$(12)\quad \hat{S}D_{30\,j,h} = \hat{T}D_{30\,j,h} * \overline{DA_h}$$

where $\overline{DA_h}$ is the weighted average trip length of VTR trips in fleet *h* (weighted by the number of VTR trips in each quarter).

When total discards could not be estimated because of little or no observer coverage (no data) or when total discards are zero (no variance), sample size was determined by pilot coverage, where 2% of the quarterly VTR trips for a fleet were multiplied by the quarterly mean VTR trip length.

$$(13)\quad \hat{S}_{30,j,h,q} = \hat{T}_{h,q} * \overline{DA_{h,q}}$$

where $\hat{T}_{h,q}$ is 2% of the VTR trips in fleet *h* and quarter *q*, and 3 <= $\hat{T}_{h,q}$ <= 100 trips; $\overline{DA}_{h,q}$ is the average trip length of VTR trips in fleet *h* and quarter *q*. If there were fewer than 3 VTR trips in fleet *h* and quarter *q*, then pilot coverage was set to zero for that fleet and quarter. The quarterly trips and sea days were then summed for annual number of trips and sea days.

The achieved precision resulting from the number of funded sea days can be derived by converting funded sea days into funded trips. The number of funded trips, $\hat{T}F_h$ for fleet *h* is defined as:

(14) $$\hat{TF}_h = \hat{SF}_h / \overline{DA_h}$$

where $\hat{SF}_h$ is the number of funded sea days in fleet *h* and $\overline{DA_h}$ is the weighted average trip length of VTR trips in fleet *h* (weighted by the number of VTR trips in each quarter).

The achieved coefficient of variation (CV) of $\hat{D}_j$ is based on the variance of the composite annual total discards for species group *j* in fleet *h* and the number of funded trips in fleet *h* and rewriting Eq. 11.

From Eq. 11, let

(15) $$CV(\hat{D}_{j,h}) = \sqrt{\frac{\sum_{q=1}^{Q}\left(\frac{K_{q,h}^2}{\bar{k}_{q,h}^2}\hat{S}_{j,q,h}^2\frac{1}{\delta_{q,h}}\right) - \hat{TF}_h\left[\frac{\sum_{q=1}^{Q}\left(\frac{K_{q,h}^2}{\bar{k}_{q,h}^2}\hat{S}_{j,q,h}^2\right)}{N_h}\right]}{\hat{TF}_h * \hat{D}_{j,h}^{\ 2}}}$$

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